ARCHITECTURAL RECORD



BUILDING TYPES STUDY

RELIGIOUS BUILDINGS 235

JUNE 1956



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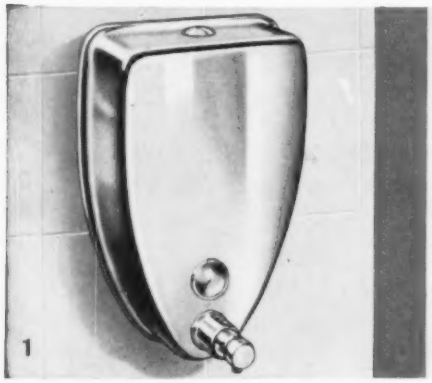
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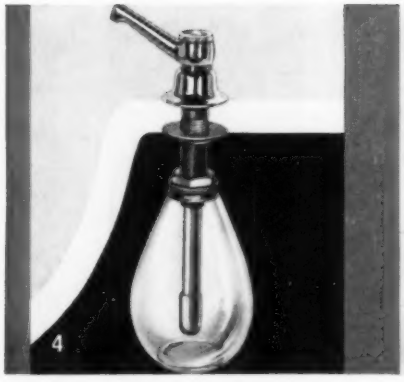
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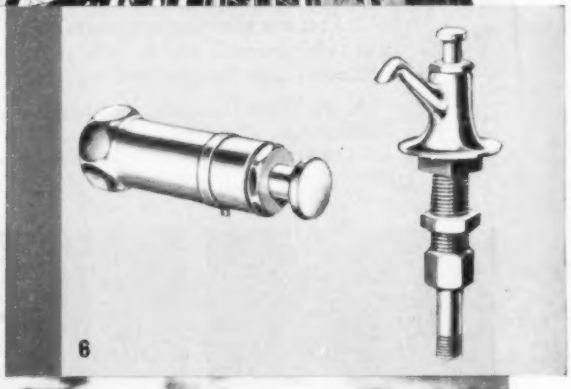
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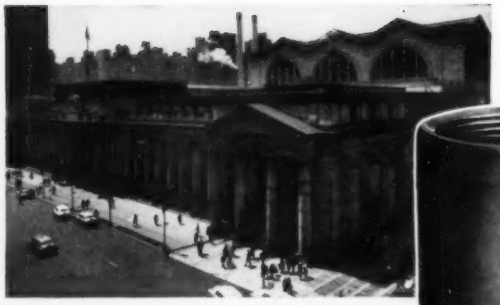
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ARCHITECTURAL RECORD

June 1956 Vol. 119 No. 7

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COVER: First Universalist Church, Chicago, Ill.; Schweikher, Elting & Bennett, Assoc. Architects. Hedrich-Blessing photo

One Hundred Years of Significant Building

Beginning a series of monthly presentations of the most significant buildings of the past century of American architecture, buildings nominated by a panel of fifty architects and scholars. The series starts here with office buildings; will continue monthly through the year which precedes the 100th Anniversary of the American Institute of Architects.

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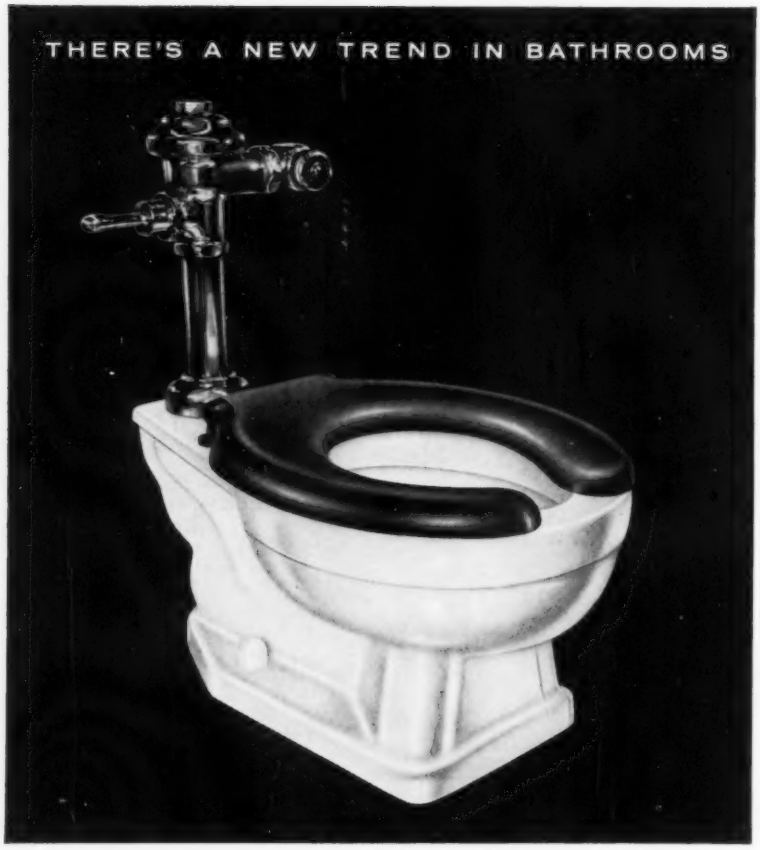


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THE RECORD REPORTS

PERSPECTIVES

IT WAS NOT AN EVENTFUL CONVENTION, but a good time was had by all. The business of the 88th annual convention of the American Institute of Architects was smoothly conducted and little debated; election of officers caused not a ripple of excitement; the dim interior of the Biltmore Theater, where most of the convention sessions were held (next door to the convention hotel), was, not unexpectedly, only once or twice fully tenanted. There was Los Angeles to be explored and a series of enticing tours arranged by the Host (Southern California) Chapter could have occupied almost the entire period of the convention and then some for anybody energetic enough to start the week off with an all-day trek to Santa Barbara or Pasadena and wind it up with an all-day tour of Disneyland and Knott's Berry Farm (Frontier Town) or a two-day tour to San Diego and Tijuana (*or* an 11-day tour to Hawaii, *or* a 25-day tour to Japan), with half-day tours of downtown Los Angeles, the Hollywood studios, Westwood-Bel Air, schools, housing, churches and hospitals to take care of the days between. To say nothing of such evening events as the "Architects Night" at the Moulin Rouge, Hollywood night club billed as "the showplace of the world"; a real Hollywood premiere, complete with movie stars and Art Linkletter as master of ceremonies; and "Hospitality Night", the Southern California Chapter's contribution (it seems likely) to a new convention tradition—parties in the homes of chapter members to one or another of which all interested convention-goers were assigned. Hub of all activities was a vast "Hospitality Lounge," furnished with a vivid yellow carpet, furniture lent for the occasion by Herman Miller, a coffee bar and a bar-type bar, both operated from morning till night. Could the Biltmore Theater (no smoking allowed, even in the lobby) compete with all this? It did, of course, for a few people a lot of the time, and for a lot of people whenever (three times in all) the subject of a session was what Dean Burchard in his keynote address described as "Architecture with a capital A." The single technical seminar was attended by 58 people.

ARCHITECTURE FOR THE GOOD LIFE, the convention theme, was also the subject of a memorable and scholarly keynote address by John Ely Burchard, dean of the School of Social Studies and Humanities at Massachusetts Institute of Technology. Starting with the process of definition, Dean Burchard noted that "the good life is not a matter of good gimmicks or of physical ease; it is a matter of things that uplift the spirit. High averages will not define it. . . . It is a life which occasionally though not too often must reach to ecstasy. . . . Architecture, then, is obviously more than a building; it must be more than a high average of convenience and amenity in the provision of places to sleep, eat and work; it must contain something that lifts up the spirit when it is beheld or experienced; something indeed that lifts up many spirits. It must not be too personal or must, if personal, be open to a multiplicity of uplifting interpretations. That at least must be so in a society which does not have a single unifying theme as we sometimes, for example, imagine the western thirteenth century to have had." Dean Burchard thought we should not expect any buildings in our time as inspirational as, for example, St. Sophia: "This has never happened; and it has hardly happened at all since the fifteenth or sixteenth century; on the level I am now seeking I find nothing yet in the twentieth century; what we may have found are ways to create such inspirations in our own language and by our own methods, if a cause can be found which is worthy of this much effort. Meanwhile we dissipate the opportunity in good average work on matters of good average importance. The mountain peaks are not there." The "conditioning forces" in this country which affect the attainment of loftier goals in architecture were discussed at some length by Dean Burchard. Among his comments: "The basic truth is in the inference from our building and from our architecture, that we do not believe in permanence. . . . Clearly, we have not, per capita, produced as many creative ideas as several other parts of the world. . . . In architecture perhaps our only significant native innovators up to now have been William LeBaron Jenney, Frank Lloyd Wright, Buckminster Fuller and one other whom I will not name so that each of you can tuck in a name that suits him and be less resentful of this assertion. . . . We are more like the Zunis who avoid excess than like the Kwakiutls who shoot the works at a potlatch dinner. This shows itself in the reluctance with which we have adopted the brilliant engineering schemes suggested by the works of Freyssinet or Maillart or Nervi or even of our own Buckminster Fuller and in the enormous restraint we have shown both in the use of sculpture and in the use of texture in buildings; even most of all, I suppose, in the extent to which we exclude sculpture and painting from our buildings. . . . It may well be that a Nervi system is better economics in Italy than it is in America but to apply economic determinism to art is the last refuge of the unesthetic mind. . . . I think we lack a certain sense of innate fitness and order in

(Continued on page 12)


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12

CONVENTION HIGH SPOTS — *1. Dean John Ely Burchard addressing the opening session; seated on the rostrum, A.I.A. Executive Director Edmund R. Purves, Treasurer Leon Chatelain Jr. (new president), Secretary Edward L. Wilson and President George Bain Cummings. 2. Mexican architect and planner Carlos Contreras in convention's closing address. 3. Clarence S. Stein addressing the annual banquet. 4. "Architecture for Safety" seminar—A.I.A. Regional Director Austin W. Mather of Bridgeport, Conn., Clinton Gamble of Fort Lauderdale, Ulysses Floyd Rible of Los Angeles, Cornelius M. Deasy of Los Angeles (moderator) and (speaking) John C. Thornton of Royal Oak, Mich. 5. "Architecture for Enjoyment" seminar—John S. Detlie of Seattle,* RECORD *editor-in-chief John Knox Shear of New York, Dean Sidney Little of the School of Architecture and Allied Arts, University of Oregon (moderator), Millard Sheets of Los Angeles (Painting), Garrett Eckbo of Los Angeles (Landscape Architecture), Joseph Young of Los Angeles (Mural Painting). 6. "The Architects' Big New Challenge—Better Design for a Million New Homes Each Year" seminar — Proctor Mellquist, editor of "Sunset" Magazine; Neil Connor (A.I.A.), director of FHA's Architectural Standards Division; A. Quincy Jones of Los Angeles; L. Morgan Yost of Chicago; and (speaking) moderator P. I. Prentice, editor and publisher, "House & Home." (Not all of panel.) 7. Hildreth Meiere after receiving the Fine Arts Medal at Awards Luncheon. 8. A.I.A. President George Bain Cummings and Agustin Sorhegui, president of the Colegio Nacional de Arquitectos de Cuba—Mr. Cummings, on the receiving end this time, has just been made an Honorary Fellow. 9. Thomas S. Holden, F. W. Dodge vice chairman, receiving A.I.A. honorary membership. 10. Architect and editor Ernesto Rogers of Milan receives honorary fellowship at annual banquet. 11. Mr. Cummings congratulates Clarence S. Stein after presentation of Gold Medal. 12. The new Fellows during Investiture*

FUN AND ARCHITECTURE: A.I.A. MEETS IN LOS ANGELES

Nearly 1900 Registered for the 88th Annual Convention of the American Institute of Architects—Chatelain Succeeds Cummings

THE 1956 HONORS

This year's roster of honors bestowed at the convention was as follows:

The Gold Medal—Clarence S. Stein, F.A.I.A., of New York, architect and planner

Fine Arts Medal—Mrs. M. Hildreth Meiere of New York: "for excellence in painting and mosaic murals"

Craftsmanship Medal—Harry Bertoia of Barto, Pa.: "for excellence in metal design and craftsmanship"

Edward C. Kemper Award—Theodore Irving Coe, F.A.I.A., of Washington, D. C., A.I.A. technical secretary

Citations of Honor—Society of Architectural Historians; Nathan Harris of Tokyo, president, Far East Society of Architects; Miss Pearl Chase of Santa Barbara, Cal.; Santa Barbara, Cal., Plans and Planning Committee

Award for Outstanding Service to Architecture by Non-Architectural Group, Society or Business—*Fortune* Magazine

Honorary Fellowships—Jean Manoury, architect for Chartres Cathedral, France; Gustavo Wallis, Venezuela, past president, (IX) Pan American Congress; Ernesto N. Rogers of Milan, Italy, architect and editor; Edmund G. Lucero, president, Philippine Institute of Architects

Honorary Memberships—Leon Zach, president, American Society of Landscape Architects; Thomas S. Holden, vice chairman of the Board, F. W. Dodge Corporation; Brig. Gen. Thomas North, secretary, American Battle Monuments Commission; John Frederick Lewis, Jr., president, Pennsylvania Academy of Fine Arts

Honorary Corresponding Membership in the Royal Institute of British Architects—Clair W. Ditchy, F.A.I.A., of Detroit, A.I.A. past president, and Edmund R. Purves, F.A.I.A., of Washington, D. C., A.I.A executive director

(Continued on page 9)

THE 88TH ANNUAL CONVENTION of the American Institute of Architects May 15-18 was held in Los Angeles, and for a good many of the 1880 (806 of them architects) who registered at the convention's Hotel Biltmore headquarters there was no more important fact about it. Even more than usual the tours and private sightseeing expeditions took center stage, and surely never had a host committee provided a more crowded or enticing agenda than the Southern California Chapter group headed by Charles O. Matcham of Los Angeles. The program of the convention itself was also crowded—on two afternoons there were four concurrent sessions going—and in the development of the official theme, "Architecture for the Good Life," produced some excellent addresses, at least one of which, the keynote address by Dean John Ely Burchard of the School of Social Studies and Humanities at M. I. T. (see page 8A), alone would have been sufficient to give this convention its distinction. The weather was HOT (one day the temperature got up to 99) and somewhat smoggy, though the hosts kept congratulating themselves that the convention was spared a *real* smog.



Retiring president: George Bain Cummings



New President: Leon Chatelain Jr.

The Political Story

The real political news from this year's convention is that politics didn't make a ripple on the smooth surface of the organizational pond. All of the officers except for treasurer were elected without opposition; the two nominees for treasurer were both presented by the Nominating Committee at the convention; no nominations were made from the convention floor.

Leon Chatelain, Jr., F.A.I.A., of Washington, D. C., was elected the thirty-sixth president of the A.I.A., succeeding George Bain Cummings, F.A.I.A., of Binghamton, N. Y., who chose not to seek a second one-year term. Mr. Chatelain, who had been A.I.A. treasurer since 1954, is a native of Washington and an architecture graduate of George Washington University there. After practicing architecture under his own name in the Washington area for more than 25 years, he recently formed the firm of Chatelain, Gauger and Nolan.

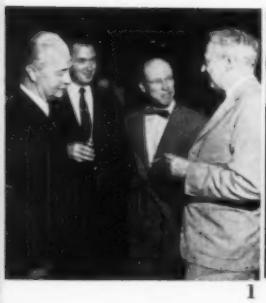
Other new officers: first vice president—John Noble Richards, F.A.I.A., Toledo, senior partner of the architectural firm of Bellman, Gillett and Richards and 1955-56 A.I.A. second vice president; second vice president—Philip Will, Jr., F.A.I.A., Chicago, of the architectural firm of Perkins and Will; secretary—Edward L. Wilson of Fort Worth (succeeding himself); treasurer—Raymond S. Kastendieck, Gary, Ind., whose three-year term as Great Lakes regional director ended at the convention. The other candidate for treasurer was George Cannon Young of Salt Lake City.

Four new regional directors also were elected without opposition. They are: *Middle Atlantic District*—J. Roy Carroll, Jr., F.A.I.A., of Philadelphia; *Great Lakes District*—Bergman S. Letzler, of Louisville; *Gulf States District*—John Hayes Pritchard, of Tunica, Miss.; *Northwest District*—Donald J. Stewart, of Portland, Ore.

On the Business Side

There were no real ripples from the business sessions either, although the

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CONVENTION SNAPSHOTS—*1. Frederic Arden Pawley, A.I.A. research secretary; Edward H. Fickett of Los Angeles; John Lyon Reid of San Francisco; Dean John Ely Burchard of M.I.T.'s School of Humanities and Social Studies. 2. A.I.A. President Leon Chatelain Jr. with Howard Barringer, president of F. W. Dodge Corporation, and Thomas S. Holden, vice chairman of the Board. 3. Mr. and Mrs. Harold Sleeper of New York, Clarence S. Stein, also of New York, and A.I.A. Executive Director Edmund R. Purves. 4. John Knox Shear,* RECORD *editor-in-chief, Mr. and Mrs. Charles M. Stotz of Pittsburgh, and H. Judd Payne,* RECORD *publishing director. 5. Polly Shackleton, editor of the A.I.A. "Memo"; Mr. and Mrs. William Harvard of St. Petersburg; Robert F. Marshall,* RECORD *general manager; Mr. and Mrs. T. J. Bissett, Columbia, S. C. 6. At the spring meeting of the Producers' Council, held the day before the convention opened, panel on "The Challenge Facing Manufacturers" — Henry E. North Jr., of Arcadia Metal Products, Fullerton, Cal.; H. B. Zachrison, Army Corps of Engineers, Washington, D. C.; (speaking) Fred M. Hauserman, E. F. Hauserman Company, Cleveland; John Knox Shear of the* RECORD; *George M. Pardee Jr., of Pardee & Philips, Los Angeles home builders. 7. Also the day before the convention opened, at Student Forum—Dean William Wurster of the University of California's College of Architecture, Berkeley; Cornelius M. Deasy, Los Angeles; Edward A. Killingsworth, Long Beach, Cal.; and William L. Pereira, Los Angeles. 8. Dean Olindo Grossi, of Pratt Institute's School of Architecture, and Mrs. Grossi; Dean Thomas Mackesey of Cornell's School of Architecture; George Hellmuth of St. Louis; and Frank G. Lopez,* RECORD *senior editor. 9. A.I.A. "Journal" editor Henry H. Saylor, with Thomas D. Broad of Dallas, New York A.I.A. Regional Director Matthew Del Gaudio, Mrs. Saylor and New York A.I.A. President Robert Cutler of Skidmore, Owings & Merrill. 10. Two visitors from abroad—Dr. Thomas Howarth of the architectural faculty of the University of Manchester, England, and H. T. Forbes of Australia. 11. John S. Detlie of Seattle, with Dean Sidney Little of the School of Architecture and Allied Arts of the University of Oregon, and John Flowers, executive director of the Texas Society of Architects. 12. Host Chapter President Paul R. Hunter, Mr. Pawley and Robert Law of Honolulu. 13. Charles O. Matcham of Los Angeles, general chairman of the Host Chapter Committee for the convention; A.I.A. Western Mountain Regional Director Bradley P. Kidder of Santa Fe; and H. Roy Kelley, Los Angeles. 14. Texas trio—Mr. and Mrs. Fred MacKie of Houston and Edwin M. Carroll of El Paso —with a first-day mission: tickets*

1956 Honors *(Continued)*

Honorary Membership in the Society of Architects of Cuba — Clair W. Ditchy, F.A.I.A. of Detroit, and George Bain Cummings, F.A.I.A., the retiring A.I.A. president

Honor Awards for Architecture— *First Honor Awards:* Hillsdale High School, San Mateo, Cal., John Lyon Reid & Partners, architects; Center for Advanced Study in Behavioral Sciences, Inc. Stanford University Grounds near Palo Alto, Cal., Wurster, Bernardi & Emmons, architects; Lambert St. Louis Municipal Airport Terminal Building, St. Louis, Hellmuth, Yamasaki & Leinweber, architects; Manufacturers Trust Company Fifth Avenue Branch, New York, Skidmore, Owings & Merrill, architects; Hodgson House, New Canaan, Conn., Philip Johnson, architect.—*Awards of Merit:* Building for Oak Cliff Savings & Loan Association, Dallas, Prinz & Brooks, architects; U. S. Embassy Staff Apartments, Neuilly & Boulogne, Paris, Ralph Rapson & John Van der Meulen, John Greenwood in charge of construction; Architectural Office for Killingsworth, Brady and Smith, Long Beach, Cal., Edward A. Killingsworth, Jules Brady, Waugh Smith, architects; house for Mr. and Mrs. Nelson T. Nowell, Stockton, Cal., Wurster, Bernardi & Emmons, architects; house for Mr. and Mrs. Theodore Bernardi, Sausalito, Cal., Wurster, Bernardi & Emmons, architects; Interfaith Center, Brandeis University, Waltham, Mass., Harrison & Abramovitz, architects; Krause residence, Whittier, Cal., Raphael S. Soriano, architect; Feld Clinic, Detroit, Yamasaki, Leinweber & Associates, architects; Istanbul Hilton Hotel, Istanbul, Turkey, Skidmore, Owings & Merrill (U. S.), Sedad H. Eldem (Turkey), architects; First Methodist Church, Midland, Mich., Alden B. Dow, architect; Police Facilities Building, Civic Center, Los Angeles, Welton Becket & Associates, J. E. Stanton Associated, architects; Schlumberger Administration Building, Ridgefield, Conn., Philip Johnson, architect; Mark Thomas Inn, Del Monte, Monterey, Cal., John Carl Warnecke, architect; residence for Mr. and Mrs. Walter P. Swain, Jr., Plainfield, N. J., Reginald Caywood Knight, architect, Jasper Dudley Ward III, associate

(Continued on page 11)

(Continued from page 8C)

architects' portrait question came up again and provoked some discussion. This time the convention revoked a decision made last year and approved a resolution presented by the A.I.A. Board of Directors to forbid the use of an architect's portrait in any advertisement except (and this was an amendment added from the floor) by express permission of the A.I.A. secretary in each specific case.

On the only other resolution offered by the Board, authorizing expenditures totaling $150,000 over the next two years for construction of a new addition to the administration building at A.I.A. national headquarters in Washington, approval was also given, though not without discussion of a suggestion that action ought to be postponed for consideration of a new building instead. The money will come $50,000 from the Emergency Loan Fund, to be repaid in three years, and $50,000 each in 1956 and 1957 from the General Reserve Fund.

Of the four proposed amendments of the bylaws it had been announced the Board would offer, three were approved and one (proposing termination of membership for members leaving the field of architecture) was withdrawn by the Board and referred to the Committee on Membership. Those approved (1) revised the dues structure to eliminate the reduced payment for members certifying a limited income and decrease the period of graduated dues for new members from four to two years (scale now $10-$30-$50 over first three years); (2) authorized an additional delegate for statewide chapters; (3) made minor changes in wording in the section on information in cases of unprofessional conduct.

The Resolutions Committee headed by Norman J. Schlossman of Chicago reported two resolutions to the convention, and in both cases the committee's recommendation to approve was followed. These provided for (1) proposing to next year's convention changing the term of regional directors from three to two years and (2) suggesting to Federal, state and municipal public agencies whenever appropriate that the A.I.A. method of conducting competitions be used in selecting architects.

The Great Occasions

Among the highlights of the convention, as always, and the occasions on which the greatest numbers were gathered together, were the opening luncheon, the awards luncheon on the second day, the President's Reception (held in the Ambassador Gardens) and the annual banquet.

In his address on the state of the Institute, at the opening luncheon, Mr. Cummings reported that membership stood at 10,972, with 75 more applications being acted upon.

All of the 1956 honors (see list) except the Gold Medal, the Fellowships, the Product Literature Awards and one Honorary Fellowship for which the recipient did not arrive in time were presented at the awards luncheon. Hildreth Meiere, the first woman to receive the A.I.A.'s Fine Arts Medal, said her greatest pride was in the men she had worked with—"that prince" Bertram Goodhue, Charles Maginnis, Harvey Wiley Corbett, Clarence Stein, Ely Kahn and Ralph Walker among them. She had, she said, worked less *for* them than *with* them, and always together *for the building*. Look for the young talent which exists in abundance, she urged architects, and keep it working for you whenever you can: the mural painter develops only on the job. From one of the new honorary members, John Frederick Lewis, Jr. of Philadelphia, came a lay plea for architecture—"I always felt that if the building was one I could draw myself there was something wrong with it—don't simplify your profession right off the map!"

Thirty-three of the 35 new Fellows (see list) were present for the traditional induction ceremonies at the annual banquet—among them Miss Marion Manley of Miami, who became the third woman Fellow (others are Miss Lilly Howe of Boston and Miss Elizabeth Coit of New York). Climax of the banquet was the presentation of the Gold Medal, the Institute's highest honor, to Clarence S. Stein of New York, architect and planner whose pioneer work in community planning brought distinction to his profession and his country as well as himself. Mr. Stein, accepting the Medal from Mr. Cummings, remarked that he received it with special pride because it was "the same honor the boss received"—another tribute to Bertram Goodhue from another old employe. Mr. Stein made the principal address at the banquet (see page 12). There was also a report on progress of Centennial plans

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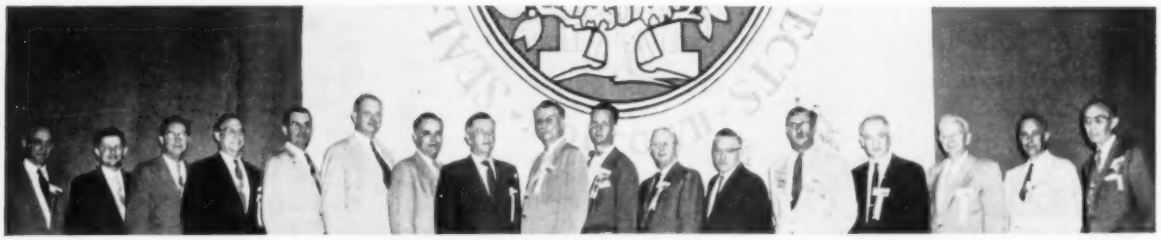


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1. At the annual dinner, A.I.A. Past Presidents Glenn L. Stanton of Portland, Ore., and Clair W. Ditchy of Detroit, with Mr. Stanton's sister, Mrs. Trowbridge. 2. At the President's Reception again—Mr. and Mrs. Paul Gerhardt and Mr. and Mrs. Norman Schlossman, all of Chicago. 3. Floridians all, and one new Fellow—the lady! H. Samuel Kruse, Miss Marion Manley, Robert M. Little and T. Tripp Russell, all of Miami, and Clinton Gamble of Fort Lauderdale, president of the Florida Society of Architects. 4. Arthur B. Gallion, dean of the School of Architecture of the University of Southern California, Wayne S. Hertzka, San Francisco and Verle L. Annis of Los Angeles. 5. On the left, Dean Henry L. Kamphoefner of the North Carolina State College School of Design—on the right, L. Morgan Yost of Chicago. Who said they didn't look alike? 6. Partners Robert E. Alexander and Richard Neutra of Los Angeles, with Edwin Bateman Morris of the Tile Council. 7. Miss Elizabeth Boyter, Marvin M. Beck and Raphael Soriano. 8. Elmer S. Tuthill of Summit, Alfred Green of Camden, Jay C. Van Nuys of Somerville, all New Jersey, and Arthur B. Holmes, former executive director of the New Jersey Society of Architects and now the national A.I.A.'s convention manager. 9. Sam Kruse again—and Mr. and Mrs. Thomas S. Holden and Mr. and Mrs. Howard Barringer. 10. John R. Magney and Stowell D. Leach of Minneapolis, with D. Stewart Kerr of Los Angeles. 11. Mr. and Mrs. Clyde Pearson of Montgomery, Ala. and Mr. and Mrs. Henry Wright of Los Angeles. 12. Paul Thiry of Seattle and Mr. and Mrs. George Vernon Russell of Los Angeles



The new Board of the Institute poses for first photo after taking over at final session of convention

1956 Honors *(Continued from page 9)*

Product Literature Awards — See page 220

Product Booth Citations—*For outstanding attractiveness:* National Concrete Masonry Association; Youngstown Kitchen Division, American-Standard; Stylon Corporation; Arcadia Metal Products.—*For effective display of their products:* Corning Glass Works; Minneapolis-Honeywell Regulator Company; Gladding, McBean & Company; Armstrong Cork Company

THE NEW FELLOWS

Following is a list of the 35 members elevated to Fellowship in the Institute at this year's convention, together with the achievement for which they were recognized:

Alfred Bendiner, Philadelphia—Design

Julian Emerson Berla, Washington, D. C.—Service to the Institute

Norman Kirk Blanchard, San Francisco—Service to the Institute

Ralph Bodman, Baton Rouge—Public Service

Robert Max Brooks, Austin, Tex.—Design

Ralph Bryan, Dallas—Service to the Institute and Public Service

John Stafford Cromelin, Chicago—Design

Henry Lawrence Eggers, Los Angeles—Design

Winston Elting, Chicago—Design

Walter Stephen Frazier, Geneva, Ill.—Design

Gilbert Phelps Hall, Chicago—Design

George Thomas Harmon III, Columbia, S. C.—Service to the Institute

Culver Heaton, Pasadena—Service to the Institute

George Smith Idell, Philadelphia—Public Service

Paul Frank Jagow, Hempstead, N.Y.—Service to the Institute

William Gordon Jamieson, Denver—Service to the Institute

Ralph Charles Kempton, Columbus—Service to the Institute

Albert Edwin Kendrew, Williamsburg, Va.—Design, Public Service and Education

Slocum Kingsbury, Washington, D. C.—Service to the Institute

Ernest Joseph Kump, Palo Alto, Cal.—Design

(Continued from page 9)

from Alexander C. Robinson III, F.A.I.A., chairman of the Centennial Observance Committee, who emphasized that all the plans are intended to dramatize architects and architecture for the benefit of the public.

Notes on the Program

Of three major seminars which constituted the main events of the afternoon sessions, "Architecture for Safety" on the first day was the only one of largely technical interest. A panel of four, with Cornelius M. Deasy of Los Angeles as moderator, discussed the architect's interest in problems of hurricane, flood, earthquake and fire. Clinton Gamble of Fort Lauderdale, chairman of the A.I.A.'s recently appointed Hurricane Committee, promised that his committee would work toward providing technical information on wind stresses in their more complicated forms: meanwhile, he noted, "the cheapest and best hurricane insurance is to actually do the necessary work on a house to tie it together, making it into a single structural unit, a rigid frame." New England Regional Director Austin Mather described the flood rehabilitation program going forward in Connecticut, a shining example of how architects and planners can contribute to comprehensive planning for rebuilding after the flood is over. On earthquakes, Ulysses Floyd Rible of Los Angeles described in some detail the considerations involved in design of structures to avoid serious damage from earthquakes, but noted that such design is not yet an exact science. John C. Thornton, chairman of the A.I.A Committee on Human Safety, described what his committee has learned from its efforts to determine how design can help make a building *firesafe*—so designed that if fire does come the occupants have the best chance of escape.

The "Architecture for Enjoyment" seminar, on which RECORD editor-in-chief John Knox Shear made the opening address (page 12) not unexpectedly displayed complete unanimity on the need for collaboration among the arts and on the present failure to achieve it, though the address by John Detlie of Seattle on "Community Collaboration in the Fine Arts" offered some working examples of organizational efforts to further alliances of the arts.

The final seminar brought architects and builders together—on a panel, at least—to discuss "The Architects' Big New Challenge—Better Design for a Million New Homes a Year," with P. I. Prentice, editor and publisher of *House & Home*, as moderator. Here familiar viewpoints on a familiar problem, and no easy solutions.

Round Tables held concurrently with the seminars on the first two afternoons of the convention covered preservation of historic buildings, school building trends, office practice, state A.I.A. organizations, architectural specifications and the A.I.A. Education Committee program.

Among the convention exhibits was the largest Product Exhibition—81 booths—in the six years this event, co-sponsored by the Producers' Council, has been a feature of the A.I.A. convention. Exhibitions of architecture and allied arts included—at the Biltmore—1956 Honor Award Winners, work of new Fellows advanced for design, work of Hildreth Meiere, and work of Harry Bertoia. Elsewhere in town numerous special exhibits had been arranged.

Marion I. Manley, Miami—Service to the Institute

Albert Carey Martin, Jr., Los Angeles—Design

George Baker Mayer, Cleveland—Public Service

Donald McCormick, Tulsa—Service to the Institute and Public Service

Robert William Naef, Jackson, Miss.—Public Service

Wallace Neff, Los Angeles—Design

Vladimir Nicholas Ossipoff, Honolulu—Design

Raymond Phelps, San Antonio — Public Service

Chester B. Price, New York—Service to the Institute and Education

Sol Rosenthal, New Orleans—Service to the Institute and Public Service

Heyward Schumpert Singley, Columbia, S. C.—Design and Service to the Institute

Nelson Smith, Birmingham, Ala.—Service to the Institute and Public Service

Louis Feno Southerland, Jr., Austin, Tex.—Design

Charles Morse Stotz, Pittsburgh — Service to the Institute and Literature

Ossian P. Ward, Louisville—Service to the Institute

Perspectives

(Continued from page 8A)

matters of esthetics. . . ." But in spite of such stony soil, architecture has reached its "highest average" here of anywhere in the world, Dean Burchard observed, even though the cityscape has been growing increasingly ugly—partly because "we have failed almost completely in our effort to educate the common man in the problems and the eloquences of a great national architecture" and partly because of "the paucity of adornment of our buildings. . . . It seems to an outsider that only the will to use art is lacking, and in particular the will to use painters and sculptors as collaborators and partners and not as paid employees." Dean Burchard nonetheless sensed "well-being and future fruition, not despair," for architecture: "American architecture is now mature; it needs only to become great."

ARCHITECTURE FOR THE COMPLETE MAN: "Out of our bountiful technology," said RECORD editor-in-chief John Knox Shear in his address opening the seminar on architecture and the allied arts, "we have fashioned many wonderful answers to needs never answered before; but to date we have seldom assembled these answers all in one place at one time. We have not yet got a whole architecture for the complete man; the man whose wide-ranging activities and aspirations involve utilitarian, and sensory, and intellectual demands apparently beyond our present capacity to satisfy." What we have, said Mr. Shear, are "some brilliant and beautiful parts"—for example: "We are spanning great spaces in remarkable ways and, under the apparent assumption that the ingenuity shown is alone enough to satisfy man, we seldom do anything to further refine and enrich the spaces achieved. We have lift slabs and seem satisfied that the miracle of the hydraulic jack will be sufficiently rewarding experience for the inhabitants. . . . Our interest in shape seems to stop with most architects at the level of the first dramatic impact. . . . Remarkable domes and crystal cubes and swayback roofs which have little to say after their first statements. . . . Where in America are the new buildings whose space and structure, whose surface and openings, whose handling of light and color, whose paths of movement and areas of repose, whose gardens and approaches are wholly useful, rich in sensations, and stimulating to mature minds?" The key to reaching a whole architecture, Mr. Shear asserted, is "the sympathetic understanding of man's constitution and motivations. A thorough knowledge of him and all his architectural needs (not just those which demand forms for which we have a predeliction) will carry us beyond the cul-de-sacs of abstract argument and arrogant ambition which presently limit our achievement." In the difficult effort to achieve this knowledge, and then to satisfy the needs revealed, Mr. Shear declared, architects need all the help they can get and should turn not only to the sciences and the humanities but, beyond the limits of knowledge, to intuition, their own and that of "the truly gifted men from the related arts, who, as sensitive artists, are responsive to the emotions of the complete man and whose natural domain is spatial organization and spatial expression." But this collaboration will be meaningful only, Mr. Shear warned, if the architect treats the artist as a true collaborator in the creative process of design and the artist learns to use his creative and expressive power, not to put "objets d'art" *in* and *on* buildings but to make art *of* them. In this process, "each must do what he best can do and stop there; and the architect—as always—must be prepared for the role of sympathetic selection and correlation."

ARCHITECTURE FOR BETTER LIVING: From Carlos Contreras, Mexican architect and planner, in the convention's closing address, came a capsule review of architecture's contributions to a better life for men over 2000 years. It added up to a paean of praise for the architect—as Mr. Contreras said: "His faults? Our shortcomings? MANY, but I have not come to bury him but to praise him. . . . The architect is one who, master in the art of building, so orders spaces and so creates and enlivens places designed for human houses that man may enjoy the best possible conditions for life. He should possess the art of composition, a knowledge of materials and techniques and experience in their use. By his natural gifts and by his education, faced with the realities of life, he should be able to grasp the spirit of his time, appreciate its human demands and give them concrete expression. He must be keen to learn and to create and must have a lively intellect, good sense and good judgment." But the architect has a vast responsibility: "The architect is in a privileged situation in his profession and in the world. There is a challenge and the opportunity is in his hands to assume a well-defined leadership to eliminate the miserable living conditions of the many; to improve the life and raise the level of the living standards throughout the world—to create a new way of life and a good and beautiful architecture as well."

COMMUNITIES FOR THE GOOD LIFE: In his address at the annual banquet, following presentation of the Gold Medal, architect and planner Clarence S. Stein challenged architects to a new role as practitioners of *community* architecture. "What we need," he said, "is an architectural attack on problems much more comprehensive than the individual building. The architect must deal with the whole environment in which his building is set, in which it forms a part, and without which the architect's work is impotent. The community may merely be a small group of interdependent structures, it may—most likely will be—a neighborhood, an urban district, a whole town or city, or even a region." As urban congestion grows ever worse, and the human need for space ever more with the achievement of leisure for all, architects "face the task of setting the stage for a completely new production"—the enjoyment of leisure, and accessible space to enjoy it in. Modern architecture, Mr. Stein told his audience, "demands a modern setting. . . . As community architects we must create cities and buildings as a single entity, completely interrelated in design and structures. . . . We must replace dying cities with communities that fit and foster the activities of the present time. . . . We can do it if the Institute will only take the lead."

(More news on page 16)

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ADDRESS



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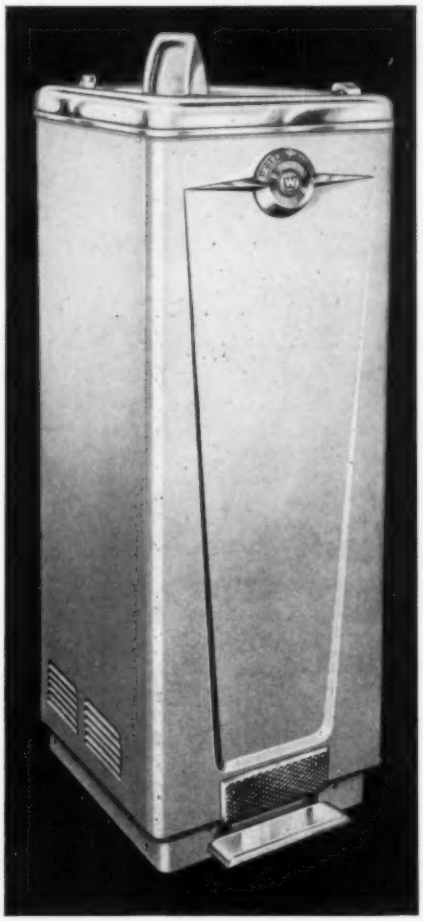
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STAINED GLASS IN AMERICA: A SURVEY OF THE FIELD

Stained glass as an allied art seems to be enjoying a renaissance in the United States, in the view of the respondents to the RECORD's survey of the 87 members of the Stained Glass Association of America. Pittsburgh Studio, for one, was quite sanguine in its outlook: "Stained glass in America today," it commented, "is on the threshold of a great period of design and execution. This has been made possible by the trend in architecture. Now that America is having her own architecture, I am sure we will have our own stained glass to go with it."

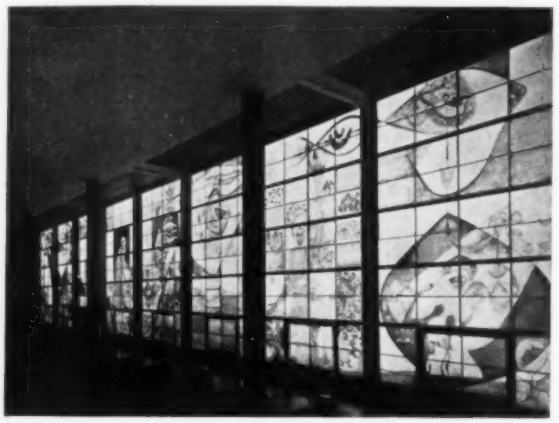
Of the 38 respondents, 28 said that they could see an increase in the use of stained glass — some thought the increase only slight, others thought it "tremendous." There were a few dissenters from the generally happy outlook; at least two studios saw a decrease in the use of stained glass. Fewer churches these days use it, they said.

For, in spite of the reported increase in the use of stained glass, most of the studios saw little increase in its use for anything but church windows. Virtually all of their commissions are for windows: 23 said that 100 per cent of their jobs were in this category. And very few of these windows were installed in buildings other than churches — 27 reported between 80 and 100 per cent. The remainder mainly goes to other

(Continued on page 16B)



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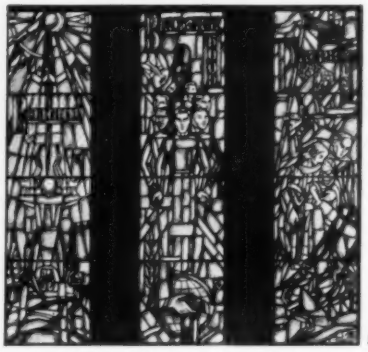




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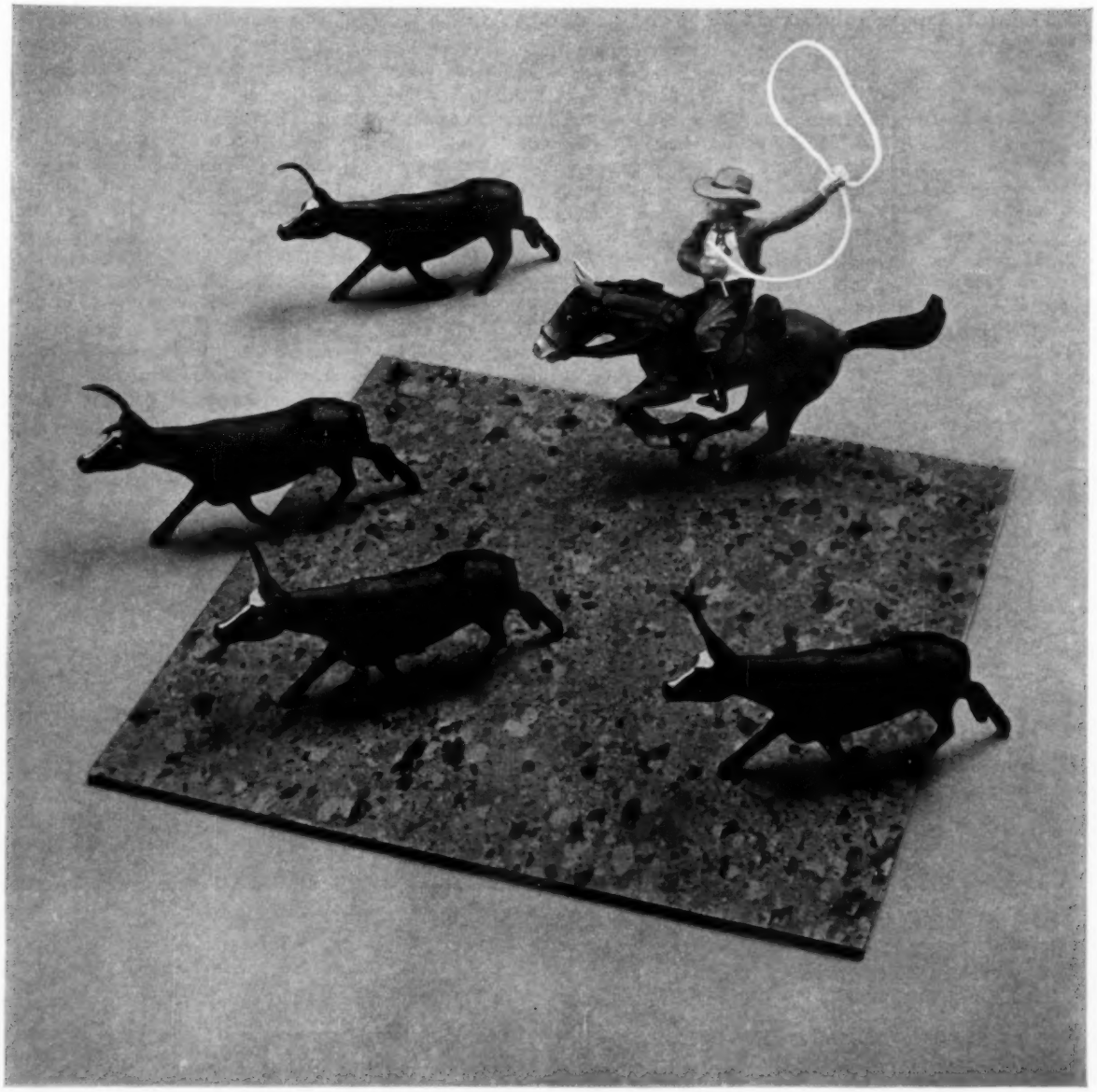


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1. & 2. Window wall from the studio of Emil Frei, St. Louis, painted on slabs of "seedy glass." 3. St. Patrick and St. Michael, St. Michael's Cathedral, Springfield, Mass.; Charles J. Connick Associates, Boston, designers. 4. Detail from window for St. Anthony's Shrine, Boston; Rambusch Decorating Company, New York, Robert Pinart, designer. 5. Window for Michigan State College, Lansing; Willet Stained Glass Co., Philadelphia. 6. All Saint's Chapel, Morris, N. Y.; J. & R. Lamb Studios, Tenafly, N. J.



Durability in floor tile

If you want extra serviceability under heavy foot or industrial traffic . . . or floors designed especially to resist grease, alcohol, acids, alkalis, oils, chemicals and foodstuffs . . . Kentile, Inc. brings you the features you need, in a wide choice of decorative styles. Each of the tile types offer the added advantages of uniform thickness, accuracy of cutting, trueness and clarity of color, surface smoothness, built-in durability and dimensional stability... another reason why this is the world's most popular line of resilient tile flooring. Tile illustrated is Corktone Kentile.

KENTILE, INC. America's largest manufacturer of resilient floor tiles

KENTILE Asphalt Tile, Carnival Kentile, Corktone Kentile/KENCORK, Cork tile for Floors and Walls/KENRUBBER, Rubber Tile/KENFLEX, Vinyl Asbestos Tile, Carnival Kenflex, Corktone Kenflex/KENFLOR Vinyl Tile, also available by-the-yard/KENROYAL Vinyl Tile/SPECIAL KENTILE, Greaseproof Asphalt Tile/THEMETILE, KENSERTS, Decorative Inserts/KENCOVE, vinyl wall base/KENBASE, wall base.

A SPECIAL REPORT

(Continued from page 16)

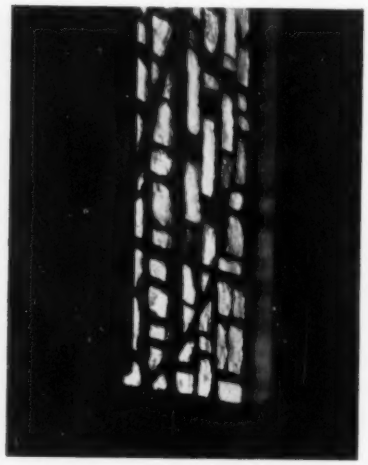
religious buildings, less to houses, still less to public buildings and practically none to commercial buildings.

In the design area also there seems to be a quickening of interest in new approaches, both toward design and toward the use of new materials and methods. Asked whether they thought there was increased interest in stained glass of "contemporary design," 31 of the studios replied in the affirmative; only one studio disagreed. (Two studios refused to recognize the distinction.) This is not to indicate, however, that any of the studios are tossing out traditional design — 36 reported that they work in both "traditional" and "contemporary." Most of the studios said too that they would prefer to continue working in both "styles." Only six of the respondents would care to commit themselves entirely to contemporary design, only one would like to eliminate it from its work altogether.

Regardless of their respective attitudes toward design, many of the studios are participating in experiments either on new methods and materials, or on means of improving traditional techniques. Among the new materials with which the craft has been experimenting is faceted slab glass, mounted in reinforced concrete (see illustrations, below). The glass, which is an inch or more thick — too heavy for conventional leading — has necessitated a fresh look at handling and design.

In an effort to deal with an ancient bugaboo of stained glass — its comparative lack of interest without light behind it — the Willet studio has been working with sculptured sheet lead, which is flown with gold leaf and put on a background of colored glass. The intention is to provide a textured surface with equal appeal in reflected and refracted light. Other studios have tried similar experiments with gold leaf, and both Cummings and Winterich's have

(Continued on page 314)



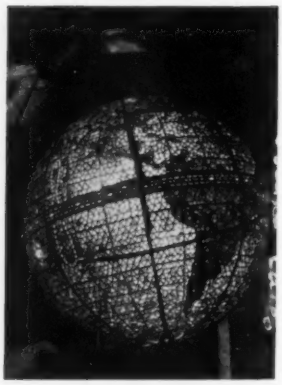
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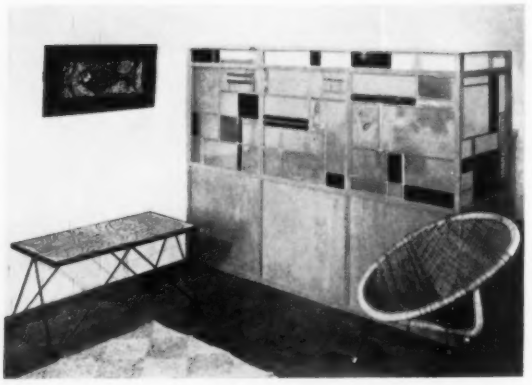
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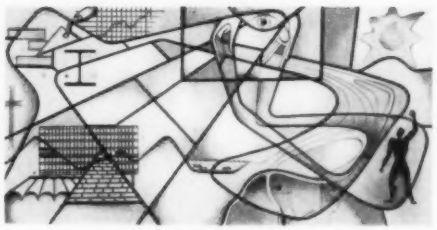


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1. & 2. Slab glass in concrete installed in St. Stephen's Church, Belvedere, Cal., by Cummings Stained Glass Studio, San Francisco. 3. Another example of the slab glass technique from Conrad Schmitt Studios, Milwaukee; Peter Recker, designer. 4. & 5., Auxiliary applications: globes from, respectively, Cummings studio for Chico State College, Cal. (left), and from Henry Keck, Inc., Syracuse, N. Y. for Trinity Church, Jackson, Miss. 6. Stained glass screen for office partition, designed by The Flemish Glazenier, Scottsdale, Ariz. 7. Window for conference room in office of architects Celli-Flynn, McKeesport, Pa., designed by the architects and executed by Winterich's, Cleveland

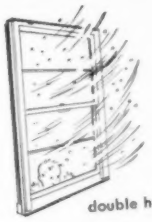


7

Let's ✓ the FACTS about DRAFTITE*

THE EFFICIENT WEATHERSEAL

DrafTite is a wool pile seal for the metal window industry . . . produced by the world's largest manufacturer of weatherstrip and glass-run channel. With an annual output of millions of feet, we are equipped with production facilities and efficiencies that insure the lowest possible prices.



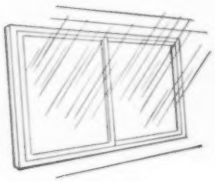
double hung

BETTER INSULATION ✓

Repeated tests, by independent laboratories, prove that when DrafTite has been incorporated around the opening perimeters of the window, air infiltration is reduced two and one-half times more than the industry standards call for.

WON'T LEAK ✓

Windows correctly engineered, and then sealed with DrafTite, have withstood hurricane water tests with amazing results. These actual tests produce a water velocity way beyond any recorded actual storm conditions.



horizontal



horizontal slider

WON'T SWEAT ✓

Since DrafTite insulates against metal-to-metal contact, heat transfer is reduced. This heat reduction cuts down condensation on metal surfaces.

WON'T STICK ✓

DrafTite will not stick or bind like plastic, spring steel or bronze compression seals. DrafTite also fills in voids on irregular surfaces.



casement



double hung

EASY OPERATION ✓

When DrafTite is used as a seal, sliding windows operate quietly and easily. This is an important feature that has clinched many a window sale.



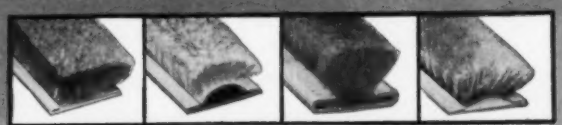
projected-type window

HIGHLY RECOMMENDED ✓

DrafTite, as a seal, has been used for many years on the most exacting architectural and monumental type windows. Our customers are the quality manufacturers of the window industry.

*TRADEMARK

The Standard Products Company offers you the services of a superior Engineering Department. Write to us. We are always happy to consult with you and assist you with your weatherstripping problems.



Illustrated are some of our many Standard Line DrafTite weatherstrip sections available for any metal window or door sealing problems.

THE ORIGINAL ★ EQUIPMENT LINE ★

The Standard Products Co.

Building Products Division, P. O. Box 678, Lexington, Ky.

Send for our Standard Line Channel and Weatherstrip Catalog



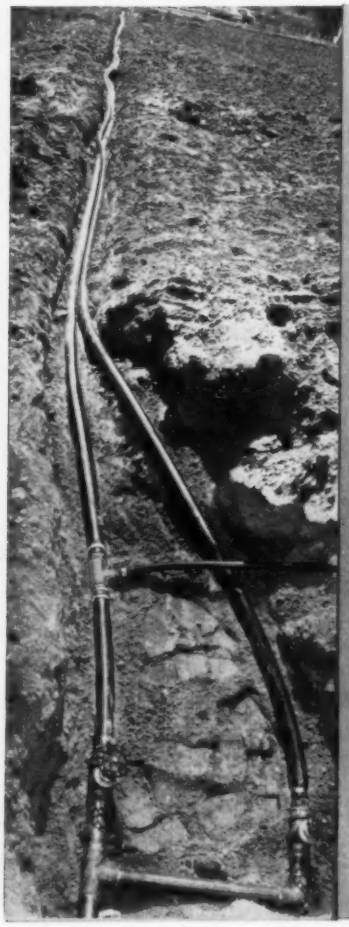
The office-lobby at Travelers' Lodge is strikingly modern in every respect. Streamline copper tubes have been cleverly used as fireplace hearth supports.



This handsome heating and with



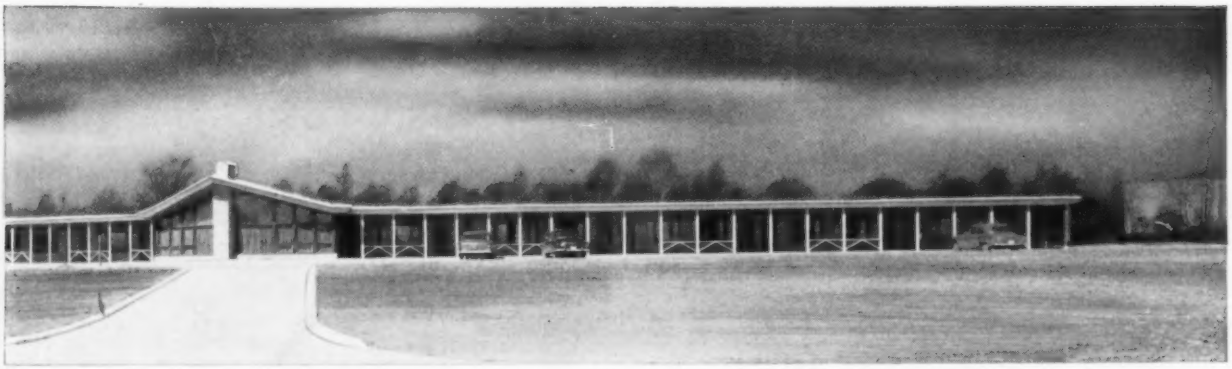
Year-around comfort is the keynote here and Streamline copper tube and fittings help maintain it.



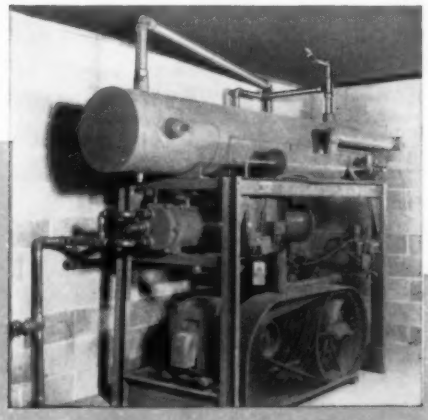
The Travelers' Lodge, a strikingly modern motel just opened at Marysville, Michigan, lavishes every convenience on its guests. Each room has wall-to-wall carpeting, television, radio, room telephone with switchboard service, tiled bath with both tub and glass enclosed shower . . . and individual room heating and air-conditioning control. To make sure that this dial-your-own-temperature heating and air-conditioning system will be dependable at all times, Mueller Brass Co. Streamline copper tube and solder type fittings have been installed throughout. The entire water supply system, too, from the street to the shower heads, is a Streamline installation . . . those modern baths will always have water at the right temperature and volume due to these smooth-flowing, corrosion-free copper and brass lines. Even the sprawling underground lawn sprinkler system employs Streamline copper tube and fittings for the mains combined with hundreds of feet of Streamline polyethylene plastic pipe for the branch lines. In all of these installations, the non-clogging properties and freedom from corrosion or leakage of Streamline products add up to a lifetime of dependable service without maintenance for the Travelers' Lodge.

The next time you are specifying or installing materials for the heating, air-conditioning, or water supply and drainage system of a building—small or large, single or multiple units—make sure it's Streamline copper tube and solder type fittings . . . you can't do better. Write today for complete information.

There'll never be any trouble with this underground lawn sprinkler installation because it's Streamline all the way. Mueller Brass Co. valves, tube and fittings can be seen at the bottom of the picture with the long, easy-to-lay runs of Streamline plastic pipe stretching up toward the motel at the top. Note the ease with which the Streamline plastic pipe has been snaked around a large boulder (near the top of picture) encountered during the trenching.

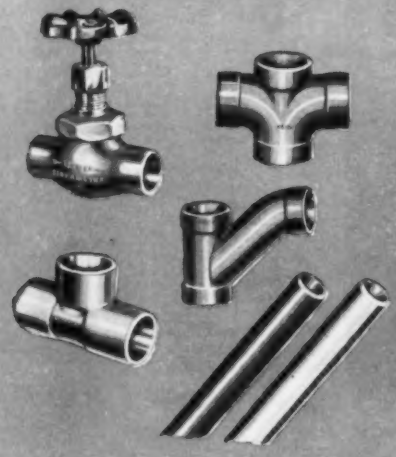


new motel is assured trouble-free plumbing, air conditioning for years to come *Streamline*® copper tube and fittings



The photograph of the service room below illustrates the extensive use of Mueller Brass Co. Streamline copper tube and solder type fittings, for both the heating plant and hot water supply. All connections and leads on the refrigeration unit, which is housed in a separate room (left), are also Streamline. In all, there are over 2,000 feet of copper tubing in the building and all lines are carried in a special underground "plumbing tunnel".



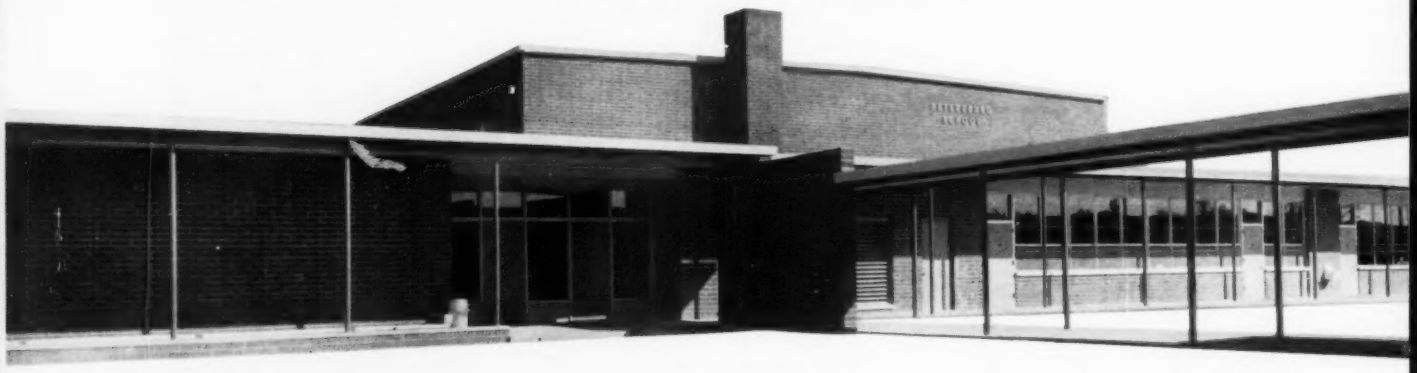


MUELLER BRASS CO. PORT HURON 5, MICHIGAN

187

MATICO

selected for another important project...



Petersburg School
Pageland, S. C.

Architect: Lyles, Bissett, Carlisle and Wolfe

General Contractor: Harlee-Quatlebaum Construction Co.

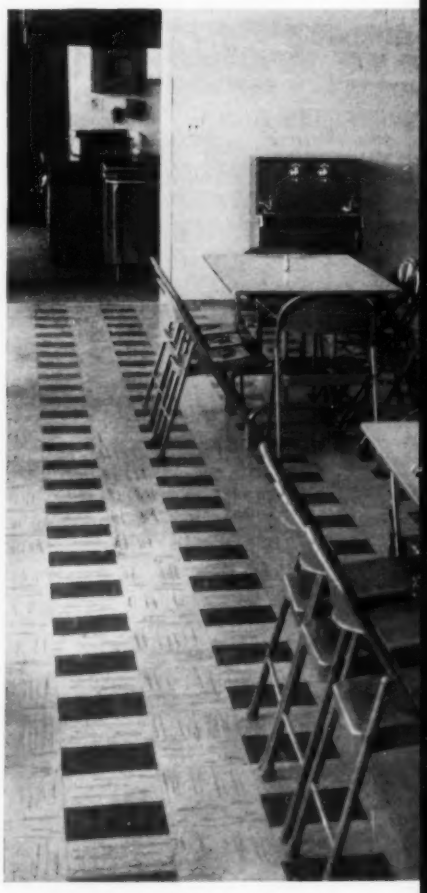
Flooring Contractor: Hugh Prather

Completely functional South Carolina school sets pace in modern school design!

MATICORK, the floor tile that simulates all the beauty of natural cork in low-cost asphalt, has been selected for use throughout the modern, pace-setting Petersburg School in Pageland, South Carolina. All classrooms, corridors, and its vast gymnasium have MATICORK® tile. And for the cafeteria and home economics room, colorful grease-proof asphalt tile was specified. Floor beauty was not the only reason for choosing Matico tile flooring! It is economical . . . costs so little to install and maintain! It resists dirt and scuffs . . . lasts for years and years, even under the heaviest traffic. And it is fire-resistant—another important reason for use in schools. If you want all the facts about MATICORK, or any other Matico product, write to Dept. 8-6, Newburgh, N. Y.

MATICORK Asphalt Tile (CK 981 [light]) was selected for the gymnasium floor because it offers all the warm, rich beauty of natural cork with the dependable durability of asphalt.





Grease-proof MATICO Asphalt Tile (G. P. 424 and G. P. 102) in striking combinations of green and white lends a pleasant and practical air of homelike comfort to the school cafeteria.

MASTIC TILE CORPORATION OF AMERICA

Houston, Tex. • Joliet, Ill. • Long Beach, Calif. • Newburgh, N. Y.

Rubber Tile • Vinyl Tile • Asphalt Tile • Confetti • Aristoflex • Parquetry • Maticork • Cork Tile • Plastic Wall Tile

QUALITY CONTROLLED MATICO PRODUCTS

Guaranteed by Good Housekeeping

6A384

The State of Construction

The upward trend continued in April, with F. W. Dodge reporting a record $2,421,497,000 total of construction contracts awarded in the 37 eastern states, a four per cent increase over April 1955 and the second highest contract figure for any month in Dodge history. A new first-four-month record was also established. Details are on page 366.

Nervi Visits the U. S. A.

The great Italian engineer Pier Luigi Nervi was paying his first visit to the United States in April and May. In lectures at North Carolina State's School of Design (for the A.I.A. South Atlantic Regional Conference), at Princeton and at Columbia, Nervi discoursed-through interpreter Prof. Mario Salvadori, New York consulting engineer and professor of civil engineering at Columbia — on his "philosophy of building correctly": a combination of empiricism and creative intuition which has produced reinforced concrete structures (see AR, April 1956, pages 257–264) of unparalleled size, daring, poetry — and economy. Nervi explains his approach to concrete construction quite simply by saying that as designer and builder he has tried to achieve maximum economy by doing away with forms as far as possible through the use of prefabrication techniques and development of his own material — "Ferro-cemento," a very heavily reinforced concrete. But Nervi, whose earnest, unaffected accounts of what he has achieved in the structures shown in his slides frequently had his audiences literally gasping with admiration, says of reinforced concrete that it has "marvelous possibilities" not yet fully realized. And he had no easy answer for the American engineer who asked why structures like his cannot be built in the U. S.: what's lacking, he said, is courage. But he regarded American engineering achievements with the greatest respect. On a whirlwind tour of New York within a few hours of his arrival there, Nervi seemed almost spellbound by what he saw — the highways, the bridges, the piers, the contrasts of discipline and confusion, of beauty and ugliness, above all the tremendous scale of the city: "*fantastica*," he kept murmuring. *Bellissima* was his comment on Lever House, which seemed to impress him beyond all the buildings he saw: and he added (always, of course, in Italian, and as if to himself), "You could build the most beautiful city. . . ." Of the Brooklyn Bridge, "Poetry. . . ." While the car crawled across Twenty-third Street in rush hour traffic, he wondered, "Why don't they put all these buildings up

(Continued on page 24)

Tommy Weber



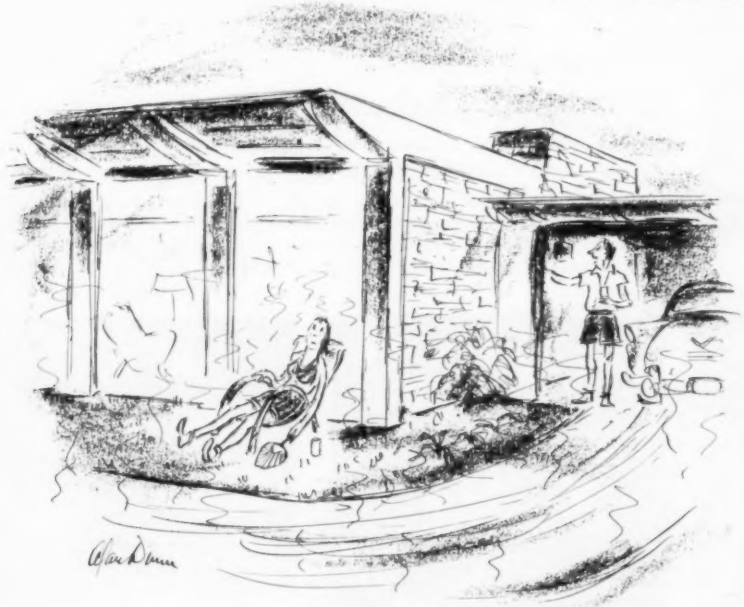
At the RECORD's *party for Nervi, Frank Lloyd Wright autographs a book to present to the guest of honor as Nervi, Mario Salvadori, Roger Corbetta and* RECORD *editor-in-chief John Knox Shear look on . . .*



. . . poses benignly with Nervi, Shear and (right) engineer Fred Severud. . . .



. . . and expounds his vehement views on the city and on anyone who can (as Nervi just had) call New York "magnificent"



— Drawn for the RECORD *by Alan Dunn*

"Good Heavens, we forgot to turn off the heated driveway!"

Thompson Products, Inc.



Aircraft fuel pump assembly line



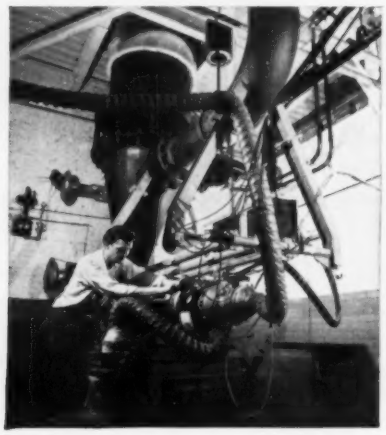
Air conditioned Engineering office

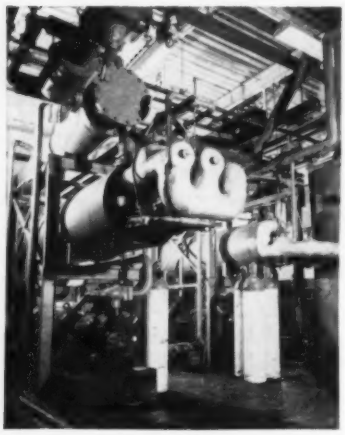
Thompson Products, Inc. TAPCO PLANT, Cleveland, Ohio

One of the 16 Factories owned by this pioneer manufacturer of Automotive, Aircraft, Industrial and Electronic Products.

POWERS CONTROL is used in the majority of Thompson factories. In TAPCO plant, Administration and Engineering offices, production areas, research laboratories and test cells, cafeterias, CRAWFORD HALL auditorium and some processes are equipped with Powers temperature and humidity control.

Below: Installation for testing turbine drives







Above: Index head for inspection of vane wheels

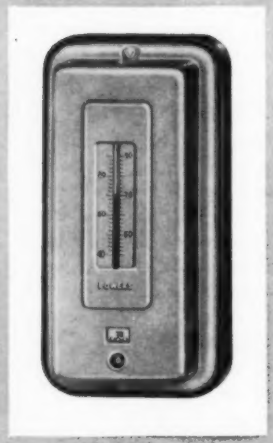
Left: Refrigeration system for cooling test fuels

increases production...lowers costs...

with POWERS *Systems*

of Temperature, Humidity & Ventilation Control

In Thompson's TAPCO plant, production of high-quality precision products is aided by Powers control in production and assembly-line areas; test and research laboratories; administration and engineering offices.



OTHER PROMINENT POWERS USERS
Aluminum Co. of America
American Telephone & Telegraph Co.
Bendix Aviation Corp. • Chrysler Corp.
Douglas Aircraft Co.
E. I. DuPont de Nemours Co.
Ford Motor Co. • General Motors Corp.
General Electric Co.
B. F. Goodrich Tire & Rubber Co.
Johns Manville Co. • Parke Davis & Co.
McDonnell Aircraft Corp.
Radio Corp. of America
Standard Oil Co.'s of N.J. and Ohio
U.S. Rubber Co. • Zenith Radio Corp.

Comfortable, Even Heat at the Right Temperature for each space or department helps increase efficiency of employees and results in these money saving advantages:

- **Increased Production.** Thermal comfort helps employees increase output and maintain production schedules.
- **Better Quality Products,** fewer rejects, better workmanship, more uniform quality.
- **Cuts Heating Costs Up to 25%.** Powers Control Systems prevent OVER-heating and stop waste of fuel. Steadily advancing fuel costs make this an important advantage. Lower heating costs alone pay a big return on the investment in Powers automatic control.

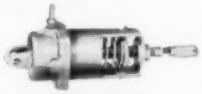
Powers Control Systems Perform Better and Last Longer. Year after year users report 25 to 40 year old Powers control systems still giving dependable regulation. When you make a major investment in a control system select one with a time proven record for long life, low operating and maintenance cost. Specify and install Powers.

Consult Powers on Space Heating or Process Control. If you have a temperature or humidity control problem, contact your nearest Powers office. Our experience gained in thousands of buildings and processes may save you time and money.

Some of the many components used in a Powers pneumatic control system

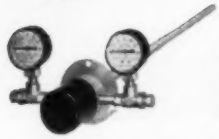


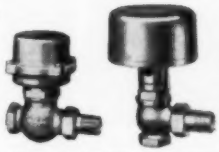
FLOWRITE
Control Valve



POWERSTROKE
Piston Operators for dampers







LIMITEM Thermostat for air temperature in ducts and processes.

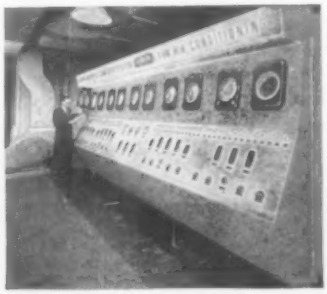
POWERS PACKLESS Control Valves—Their duo-seal construction reduces valve stem friction, eliminates packing maintenance and leakage of water or steam and gives smooth accurate control.

THE POWERS REGULATOR COMPANY

SKOKIE, ILLINOIS | *Offices in chief cities in U.S.A., Canada and Mexico*

Over 65 years of Automatic Temperature and Humidity Control





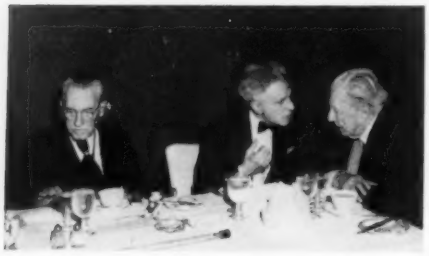
(C62)

MEETINGS AND MISCELLANY

(Continued from page 21)



THE ARCHITECTURAL LEAGUE of New York celebrated its 75th anniversary on May 3 with a gala dinner in the Metropolitan Museum of Art's monumental restaurant. Above (left to right) architect Julian Clarence Levi, who received a special Citation for his long years of devoted service to the League; Mrs. R. B. O'Connor; Mr. O'Connor, League president; Frank Lloyd Wright (partly hidden) and the then A.I.A. president, George Bain Cummings. Below, on the same occasion, Mr. Wright chats with Eliot Clark, president of the National Academy of Design; at left is William Adams Delano, A.I.A. Gold Medal recipient in 1953, who made one of his now rare public appearances at the dinner



Mr. Wright shared the spotlight with New York realtor William Zeckendorf on The American Forum television program dealing with the future of the American city. They were as far apart as you would expect on that subject, but sparred in friendly fashion and shook hands merrily for photographers



on stilts?" At a reception for Nervi given by ARCHITECTURAL RECORD in honor of his forthcoming book, to be published by F. W. Dodge this summer, the guest of honor got an impromptu lecture from Frank Lloyd Wright, who had come, as he explained, to present to Nervi a copy of his new book, "The Story of the Tower" (AR, Feb. 1956, page 58). But when Nervi said fervently, in response to an invitation to comment on the city, "Magnificent!", Mr. Wright immediately interjected, with all his customary vigor and conviction, "I disagree with Mr. Nervi entirely." And there followed an interchange in which Mr. Wright's eloquent hands (see cut) supplemented the indomitable voice decrying the waste, the stupidity and the inhumanity of that obsolescent concept, the city. . . . Nervi returned to Rome after barely a month in this country, and without seeing anything of it but the eastern seaboard, but not before expressing interest in the invitation of the architectural firm of Toombs, Amisano and Wells of Atlanta to collaborate with them on a shopping center project, so that there may be another visit and finally an on-the-spot demonstration of his techniques before too long.

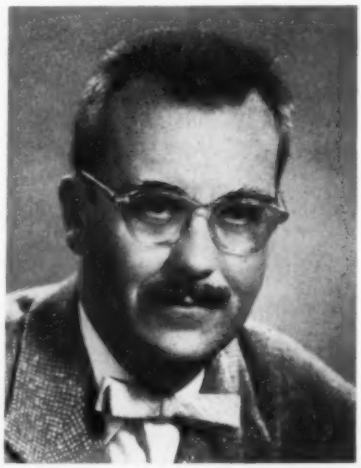
Winners in St. Louis

Murphy & Mackey of St. Louis have won the national invitation competition for the design of the projected $3.5 million John M. Olin Library of Washington University in St. Louis. Dean William Wurster of the School of Architecture of the University of California headed the award jury, which also included David Charles, former director of libraries at the University of Pennsylvania, and Henry R. Shepley of the Boston architectural firm of Shepley Bulfinch Richardson & Abbott. Firms invited to compete, besides Murphy & Mackey, were Hellmuth, Obata & Kassabaum Inc. and Jamieson, Spearl and Grolock, both of St. Louis; Louis I. Kahn of Philadelphia; Caudill, Rowlett, Scott & Associates, Bryan, Tex.; and Edward D. Stone of New York City. The competition designs will be shown in a later issue of the RECORD; announcement came too late to make it possible this month. The library will be the first unit of the University's Second Century Development Program, for which Buford Pickens, since 1953 dean of the School of Architecture, has been named architectural planner and adviser. Mr. Pickens says of the program, "Good architecture and planning are both vitally important not only to any school of architecture on its own campus but also to the cultural and educational values for all students and faculty. The most important problem in campus planning is to provide at the same time for continuity in the spirit of some overall concept and to get the best possible individual buildings. This is what we hope to do at Washington University."

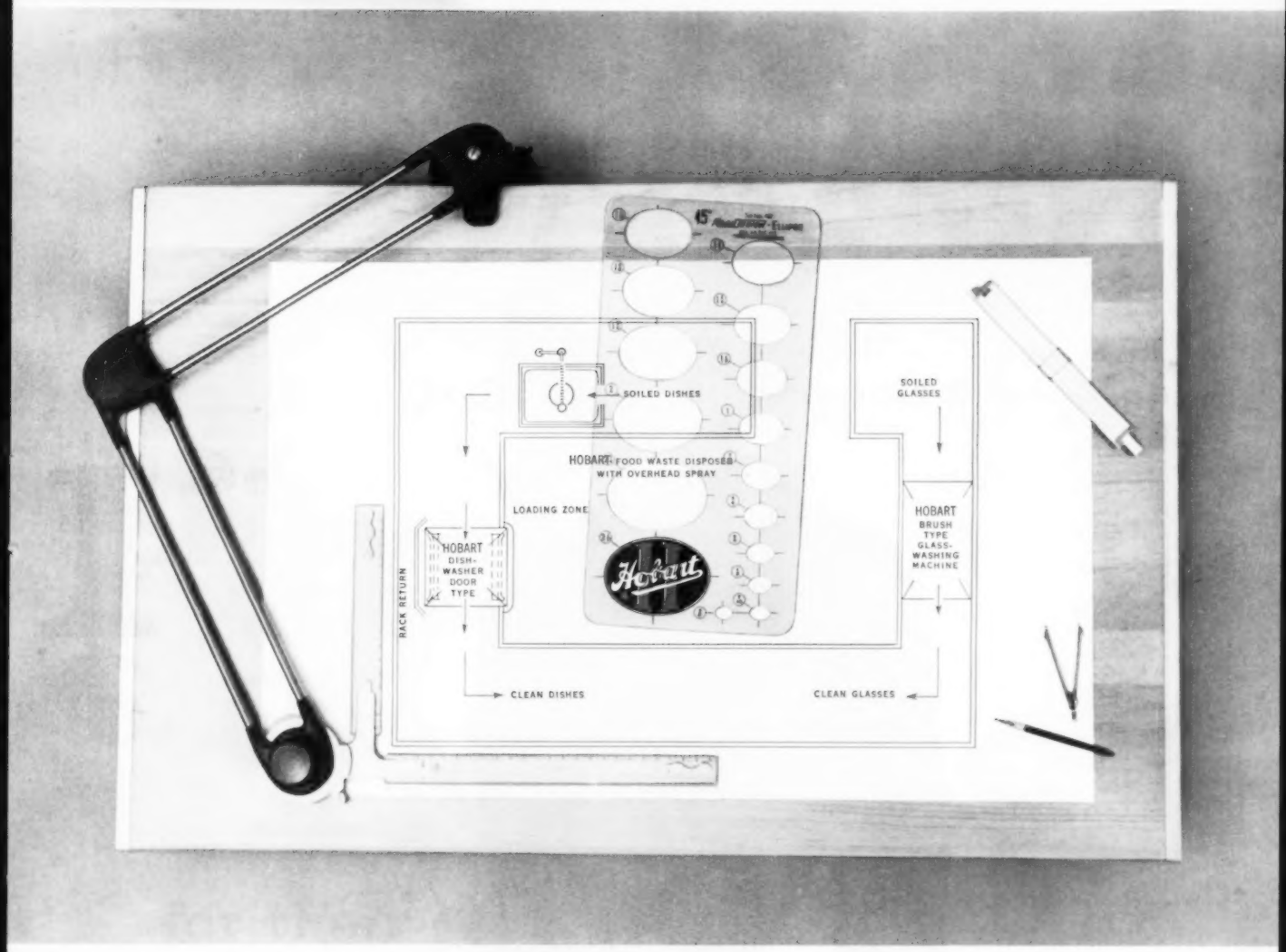
In Search of Urban Beauty

Some 400 architects, landscape architects, city planners and students gathered at the Fogg Museum in Cambridge, Mass. April 9–10 for an invitation conference on urban design sponsored by the Faculty and Alumni Association of Harvard's Graduate School of Design. The idea of the conference was to bring interested members of the design professions together to consider "the coming physical form of the city" and especially how it can be endowed with those elusive qualities of beauty and delight. As Dean José Sert noted in his opening address, the conference was intended to be exploratory only and was set up with the idea that further meetings would be required before any conclusions could be reached. Although it began with a focus pretty sharply — and perhaps intentionally so — on purely visual aspects of urban design, the conference was soon pulled by the very nature of the theme into a

(Continued on page 28)



WASHINGTON UNIVERSITY'S former dean of architecture, Buford Pickens, now architectural planner and adviser for university's development program and chairman of the campus planning committee in charge of developing preliminary plans for the buildings

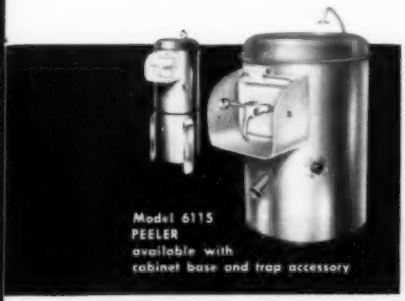


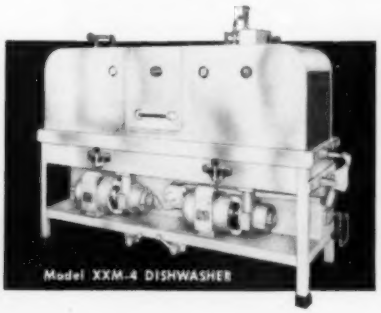
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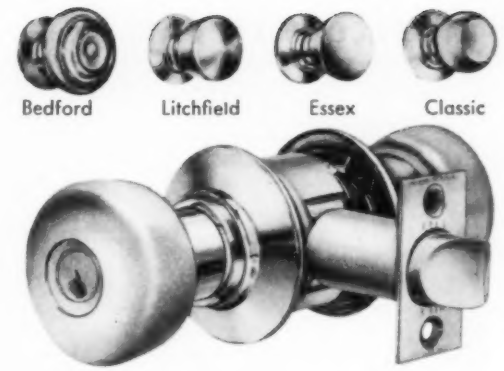
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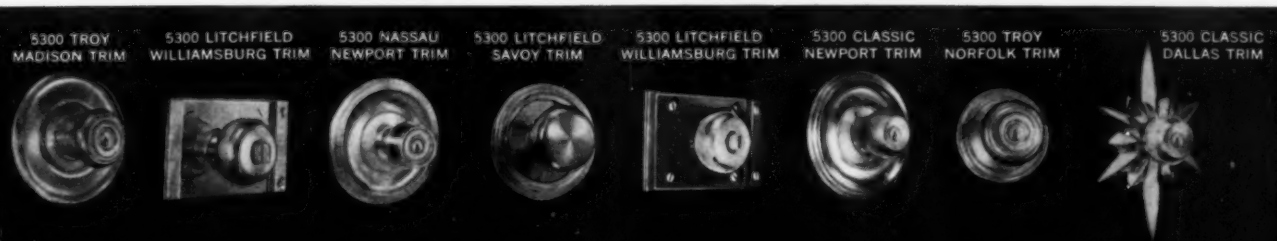
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MEETINGS AND MISCELLANY

(Continued from page 24)

far more sophisticated context. The session on "Urban Designs of Today," which had Dean Pietro Belluschi of M.I.T.'s School of Architecture and Planning as moderator, provided not only expert testimony as to the complexity of the problem but an indication of what can be achieved even without a new definition of urban design. Mayor David Lawrence of Pittsburgh and Executive Director Edmund Bacon of the Philadelphia City Planning Commission discussed some of the projects which have already brought new beauty to some sections of their cities — Pittsburgh's Golden Triangle and Chatham Village, for example, Philadelphia's Penn Center and neighborhood projects. In an earlier session architect Richard J. Neutra had pleaded — as many times before — for prime consideration for the reactions and sensitivities of human beings in the design of their environment. One of the highlights of the conference was the presentation by architect Victor Gruen of his plan — so far still "under consideration" — for redeveloping Fort Worth: a scheme (AR, May 1956, page 12) which would return to the pedestrian many of his lost amenities. Also pleading for the human touch was Jane Jacobs of *Architectural Forum*, who pointed out that small and sometimes homely details of neighborhood can be important in preserving for people the sense of place and of belonging.



BIRCH BURDETTE LONG MEMORIAL PRIZE for architectural rendering was awarded last month to George Cooper Rudolph of New York for three renderings (one shown above) of the projected Chase Manhattan Bank Building in downtown Manhattan (Skidmore, Owings & Merrill, architects)

When the conference closed, there were tentative plans to hold another next fall.

Technics in the South

"New Materials and New Methods of Construction in Architecture" was the theme of this year's A.I.A. South Atlantic Regional Conference, held April 12–14 at Durham, N. C. with excursions for some sessions to Raleigh and Chapel Hill. A rather star-studded speakers' roster included not only Nervi (see page 21) but also, as keynote speaker, Alonzo J. Harriman of Auburn, Maine; on plastics, Albert G. H. Dietz, professor of building engineering and construction at M.I.T.; on aluminum, Paul Weidlinger, New York consulting engineer; on laminated wood structures, R. T. A. Johnson of the U. S. Forest Products Laboratory, Madison, Wis. Walter A. Taylor, A.I.A. director of education and research, opened the proceedings with a strong plea for construction industry research as "a basic tool and a top priority investment." Mr. Harriman, discussing the impact on architecture of such current trends as prefabrication and automation, suggested a new A.I.A. "Department of Standards and Research" to provide the research he also said was a major need. In the Honor Awards Exhibit, a jury consisting of John Ekin Dinwiddie, Tulane architecture dean, as chairman, Charles M. Goodman of Washington, D. C., and Frank G. Lopez, senior editor of ARCHITECTURAL RECORD, gave five Awards of Merit and one Citation. An Award of Merit with Special Commendation went to Wilson Junior High School, Mecklenburg County, N. C., A. G. Odell Jr. and Associates, architects. The other Awards of Merit: Fraternal Order of Eagles Building, Atlanta, John Portman, architect; residence for Samuel T. Lemer, John Portman, architect; Gregory-Poole Equipment Company, Raleigh, N. C., G. Milton Small, George Matsumoto, architects (AR, April 1956, pages 253–256). The Citation was given for a parking lot office for Archibald C. Edwards, Joseph N. Boaz, architect.

(More news on page 32)



SLIDING SHUTTERS (above) is the Harwell Harris-designed residence of a New York stockbroker who has announced plans to subdivide part of his estate in Redding, Conn., into ten large sites for houses with the specified purpose of establishing a showplace of contemporary architecture. Gerald M. Loeb, a partner of E. F. Hutton & Co., plans to consult with early purchasers of the sites — they must also be devotees of distinctive architecture — to compile a roster of architects for the houses; but he mentions such names as Frank Lloyd Wright, Harwell Harris, Philip Johnson, Richard Neutra, Marcel Breuer, Paul Rudolph, John Johanson, Edward Barnes, Hy Hebeln, Raphael Soriano, Charles Eames and Bruce Heiser



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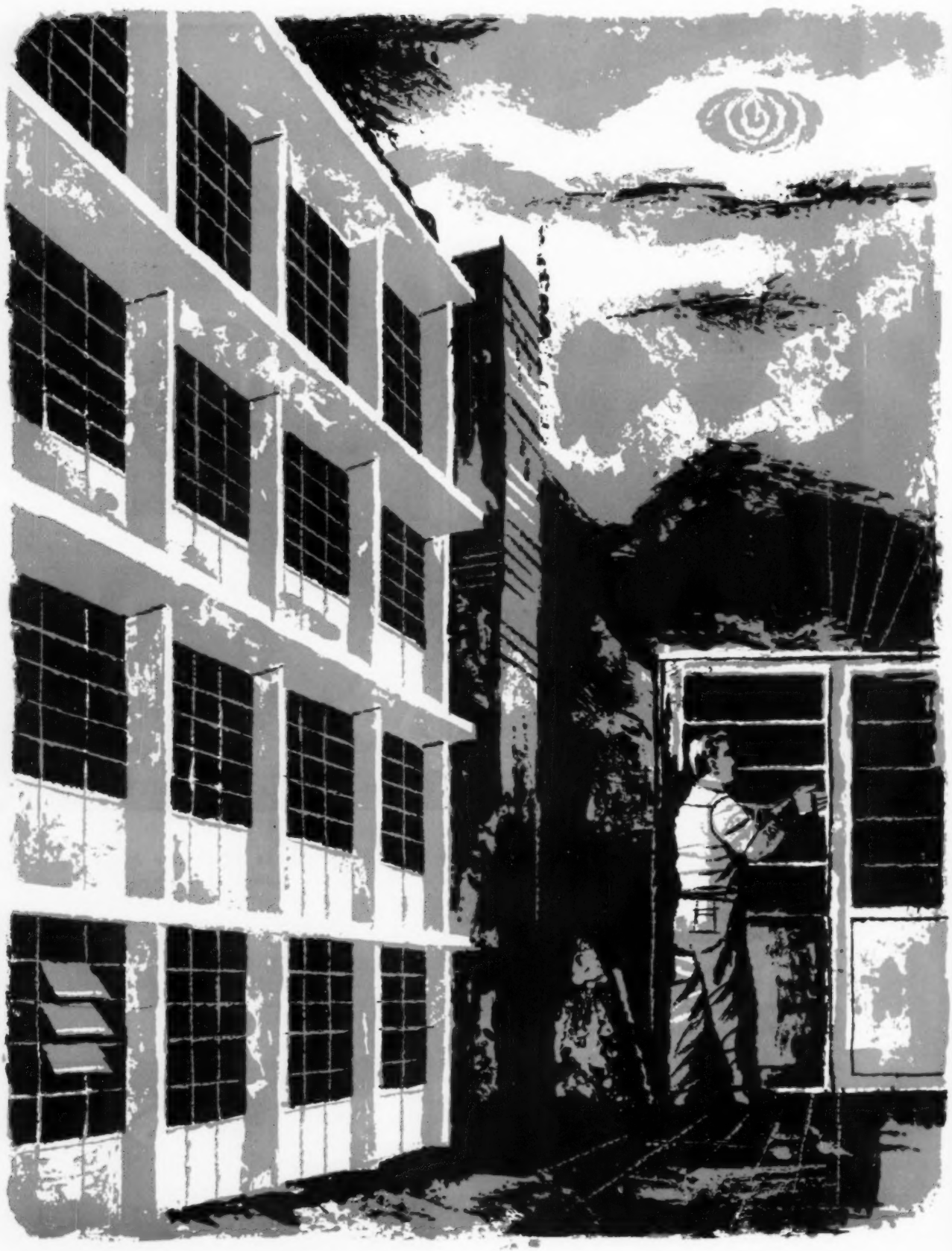
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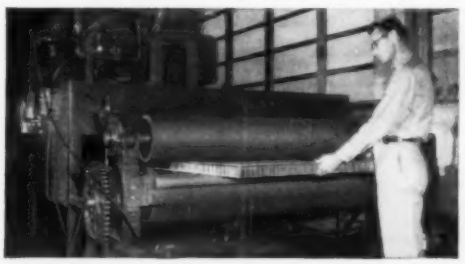
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CALLING ALL BUILDERS: WHAT WOMEN WANT IN HOUSES IS BETTER DESIGN

Women's Congress on Housing Indicates Space Planning Lags Behind Evolving Patterns of Family Living While Costly Gadgets Multiply

The ladies of the nation, or at least their 103 representatives assembled in Washington April 23–25 as the Women's Congress on Housing, have issued what appears to be a clear mandate to merchant builders to spend more money on architectural services and less on other things. They also served notice on the Congress of the United States and on interested segments of the building industry that there is a greater need for housing research than can possibly be met by the best efforts of individual manufacturers or trade associations.

Not that the ladies announced any such conclusions; but they were clearly if unconsciously implied throughout the two days of roundtable discussions of all the nine geographic groups and the one "cross-section" group into which the Congress was organized for working sessions. Whether the builders — or, indeed, the architects, will make the obvious inferences is, of course, another question.

The Women's Congress on Housing was called by Administrator Albert M. Cole of the Housing and Home Finance Agency "to obtain the views of representative American housewives on the design of the modern house." The idea was, as President Eisenhower expressed it in a message read at the opening session of the Congress, that "ultimately it is the housewife, the homemaker, who is most concerned with developments affecting the home. New methods of building, new materials, new inventions of all kinds, tend to induce a change in living patterns of which she is the center. But the opposite is also the case. When living patterns change within the home, these in turn give an impetus to new technological advances." And the HHFA, Administrator Cole explained, felt the views of housewives ought to be taken into account in considering such matters as the Minimum Property Requirements of the Federal Housing Administration, lest ignorance of developing new patterns of living make new houses obsolete far too early. Mr. Cole hoped industry as well as government would benefit by the information made available; he even expressed the hope that the Congress might eventually inspire "a full-scale market analysis."

Delegates were chosen largely from among the writers of the nearly 4000 letters which arrived after Mr. Cole publicly invited housewives across the country to write him their views on how the modern house could be improved; a few were nominated, at HHFA's invitation, by such organizations as the American Institute of Architects, the National Association of Real Estate Boards and the National Association of Retail Lumber Dealers. The National Association of Home Builders did not accept its invitation to nominate. Under Miss Annabelle Heath, HHFA assistant administrator, as conference chairman, a technical group headed by Joseph Orendorff, former head of the now defunct HHFA Division of Housing Research, carefully screened the letters for major areas of concern, and the results shaped the agenda for discussion at the Congress.

A very wide range of opinions and preferences, a very strong demand for "individuality" (the word was used again and again) in appearance, plan and lot arrangement, and a unanimous concentration on the needs and desires of the family occupants themselves — as against concern with the reactions of the neighbors or of visitors — were striking features of all the discussions. Also striking was the highly articulate response of the women to their opportunity to express themselves; there was no doubt of their enthusiasm and no doubt, either, of their conviction that builders could learn a good deal from them about what makes a house tick. Fortunately or unfortunately, the builders were assumed to be responsible for every fault or virtue of a house; as far as these women were concerned, the architect apparently didn't exist.

Some basic areas of agreement on requirements of the modern house were reflected in the reports given by discussion leaders at the final session of the Congress. As summarized in the HHFA's preliminary report on the Congress, the main points were:

— Three bedrooms, one and a half baths, ample storage and closet space, and a family room closely related to the kitchen are minimum requirements for modern family living.

— Outdoor play and living space in the back yard, which was given greater emphasis in the South and less in the North.

— Back door entrances with "mudroom" and half baths for the children and family to use.

— Curvilinear streets and sidewalks with a planted space between the walk and the curb.

— They wanted only essential appliances included with the house, and preferred to get their own as they were able, preserving "more space in the home and fewer gadgets."

— All agreed strongly on the need for more storage space in the modern home, and called generally for at least five ft of hanging closet space per person. The groups presented various proposals for increasing storage space on a planned basis.

— All wanted the home plan basically divided into a family or noisy area and a living room that furnished a quiet and adult area, and all wanted to eliminate cross traffic between different areas of the house.

— While most would like a separate dining room, they were willing, for economy purposes, to accept a dining space provided it was in the "L" of an L-shaped living room, and all wanted at least a small space for eating in the kitchen or family area.

— Nearly all wanted the kitchen to the rear of the house, with a window facing the back yard, although one group preferred to have the house turned around, facing to the rear, and another group was willing to have both interior kitchens and bathrooms.

— Many of the groups preferred traditional windows, but wanted them removable and easy to clean, and all felt that picture windows should be used only when they had a desirable view.

Although there may be some question about how well these ideas face up to the economic realities of the $10,000–$15,000 house to which they were in theory addressed, they constitute a new checklist of market demand, and as such, seem bound to get attention.

(More news on page 36)



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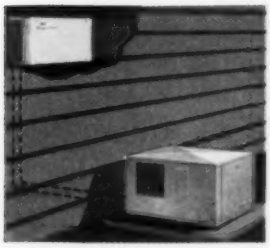
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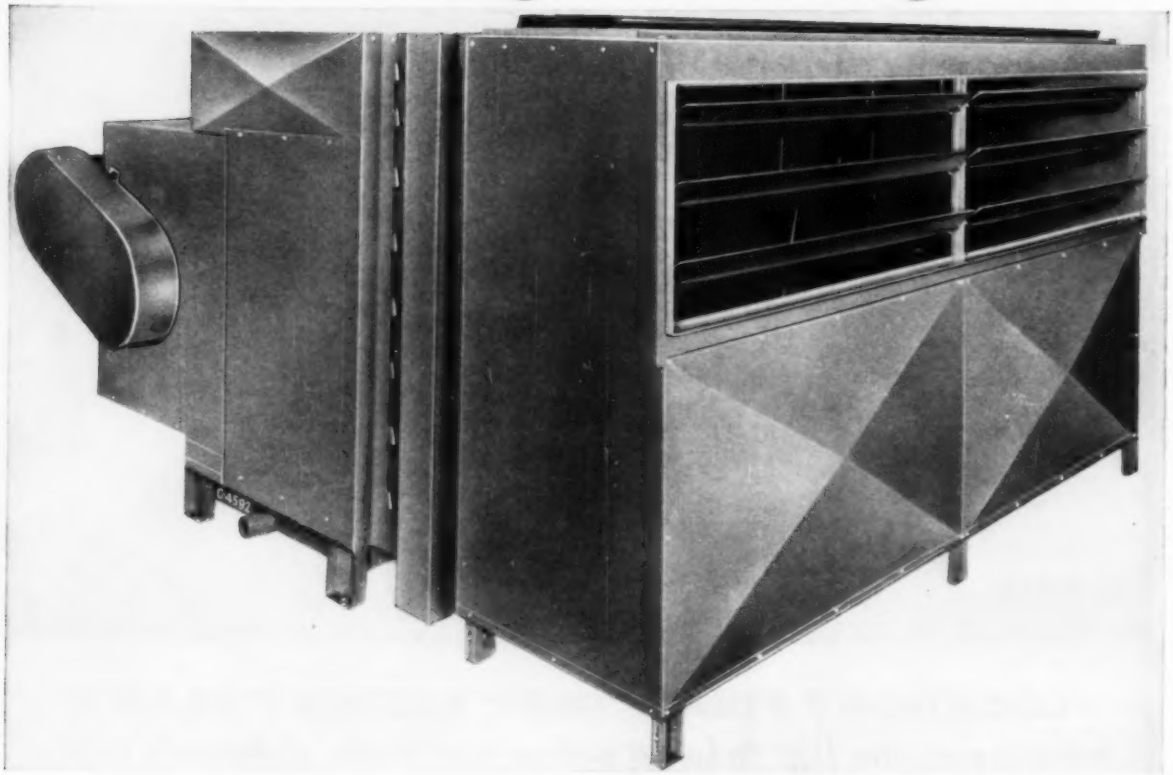


YEAR 'ROUND

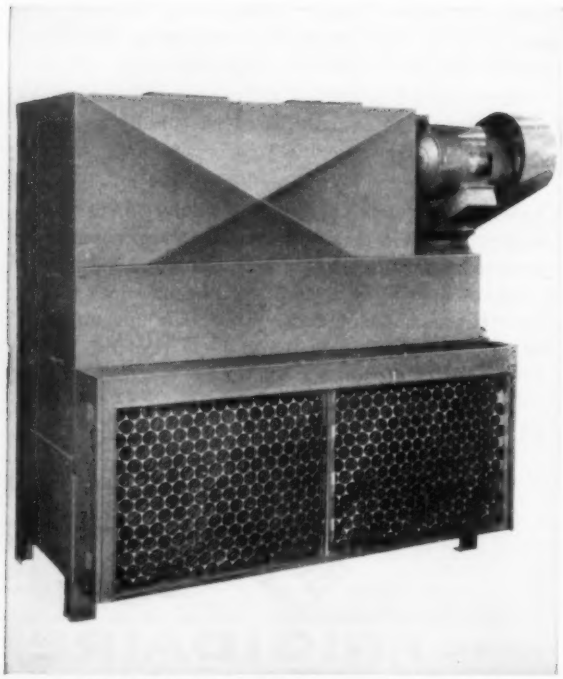
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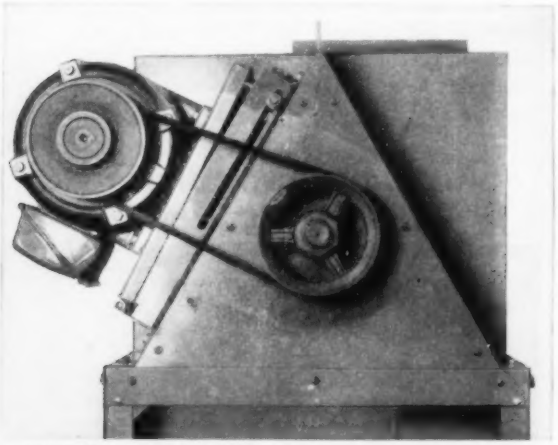
Announcing Worthington's



HORIZONTAL CONSTRUCTION of new Worthington air handling units allow them to be suspended from platform or ceiling (with hanger lugs.) Here is a large sized unit with damper section. Standard unit consists of fan section, fans, V-belt, drive (with variable pitch pulley), bypass and damper section, direct expansion or chilled water coils, and base section.



SMALLER SIZED UNITS are shipped completely assembled for horizontal or vertical arrangement shown above.



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Compact units—from 1½ to 106 tons—are easy to install—have many exclusive features

Here's a new line of unusually compact air conditioning units for commercial and industrial use in conjunction with central system air conditioning.

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Units are extremely flexible. The fan section may be mounted with front, top or rear discharge. You can adjust speed for desired capacity and static pressures. Adjustable motor base offers 3½" variation in center distance for positive adjustment of belt tension. The motor mounts on the front, top, back or either end. Accessories are interchangeable between horizontal and vertical units.

Engineered by Worthington for long, trouble-free life, all sections are constructed of rugged fabricated steel, Bonderized and coated with a corrosion resistant enamel. Dynamically balanced, forward curved fans give maximum efficiency, quiet operation. (Fan shaft rides on lubricated-for-life bearings.)

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- **Motor mounts** on front, back or either end of unit.
- **Fan discharge** can be front, top or rear, as you prefer.
- **Accessories interchangeable** between the horizontal and vertical units.

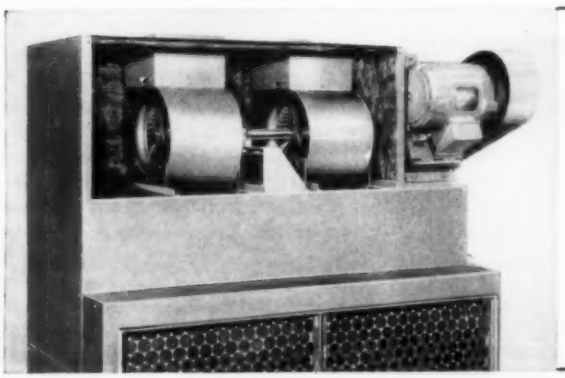
And look at these extras!

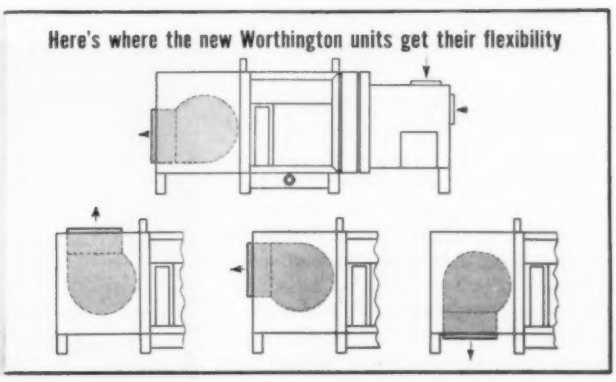
- **Up to 19,000 CFM!** You get more capacity from compact units.
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Section R

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ADJUSTABLE DISCHARGE. Fan section may be mounted with top discharge as shown above. Or discharge may be directed to front or rear of the unit. See diagrams.

"ROUNDUP IN THE ROCKIES" THEME OF ANNUAL ASSEMBLY

The 47th annual assembly of the Royal Architectural Institute of Canada will open on June 6 with pre-assembly council meetings; a "western welcome" is scheduled for that evening. Business sessions, tours and a ranch supper are planned for June 7, and seminars and special events will follow on June 8 and 9. The official activities of the assembly will end on June 9 with the annual dinner.

The day preceding the convention will be taken up with a conference of the Canadian schools of architecture, under the chairmanship of Prof. John A. Russell of Winnipeg.

On June 10, post-assembly activities are planned; these will include a west coast trip which will take many of the delegates and their wives to Vancouver.

GOVERNMENT FEARS SHORTAGE OF KEY BUILDING WORKERS

The labor supply for the construction industry will be tight this summer, according to a report from the Dominion Bureau of Statistics, Department of Labor and National Employment Services. Architects and draftsmen will be hard to get, said the Bureau, but skilled carpenters, bricklayers, tile setters, cement finishers and painters will be even scarcer.

The Bureau did not fear an overall labor shortage as much as the possibility that a scarcity of key skills, particularly in boom areas, might be a serious factor in determining the degree and speed at which employment would be available to others. So far, however, according to employment figures, the seasonal swing has been about normal.

BUILDING CODE THE TOPIC AT MEETING IN WINNIPEG

At a conference sponsored by the Associate Committee on the National Building Code of the National Research Council, more than 80 municipal officials discussed questions which had arisen in their municipalities around the adoption and use of the revised National Building Code. Procedure for adoption differed so from province to province that it was decided such special local problems could better be reviewed by officials separately in each region. It was thought that the formation of provincial groups would encourage greater participation from smaller municipalities unable to send delegates to a national conference, and a resolution urging such provincial associations was passed unanimously by the delegates.

Earle G. Simpson, inspections engineer for the city of Winnipeg, was chairman of the conference. Director R. F. Legget and other officials from the National Research Council reported progress in the development of the National Building Code. It was announced that copies of the new "Shorter Form" of the code were available, and that work on associated documents was well advanced.

The two-day program included discussion on subjects ranging from town planning to fire research. Many problems of municipal by-law administration, such as procedure for the condemnation of buildings and the acceptance of new materials, were reviewed.

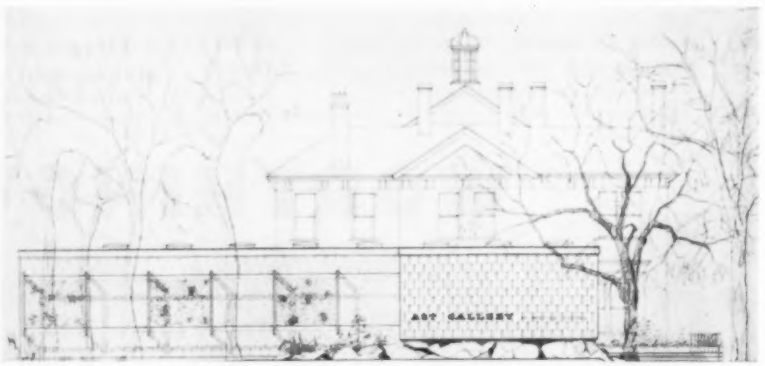
Proceedings of the conference will be available later in the year from the secretary, Associate Committee on the National Building Code, National Research Council, Ottawa.

SPECIFICATIONS WRITERS AT TORONTO FOR MEETING

Retiring president D. H. Brough reported at the recent meeting of the Specifications Writers Association in Toronto that excellent progress has been made in evolving a framework of basic specifications. Thirty-two subcommittees have been organized to prepare standard specifications for their particular trades, he said. To date 15 drafts of standard specifications have been received and two have been processed by the board of directors over a period of four special executive meetings held for this purpose. One specification submitted to the membership was returned for reconsideration.

Delegates also elected officers for the coming year: O. E. Letherland, president; R. V. Fernandez, secretary; and R. E. Briggs, treasurer. Members of the board of directors are C. S. Jarrett,

(Continued on page 40)





GALLERIES EAST AND WEST: Above — winner of a competition for a new wing for Victoria's Art Gallery was the design submitted by Clack, Clayton, Pickstone, Architects and Town Planning Consultants of Victoria. No second prize was awarded, but the third prize went to architect W. R. Gibson, also of Victoria. Left — The Department of Public Works, under chief architect E. A. Gardner, designed the temporary quarters for the National Gallery; it will be converted to office space when the permanent gallery (AR, May 1954, p. 26) is completed in about ten years



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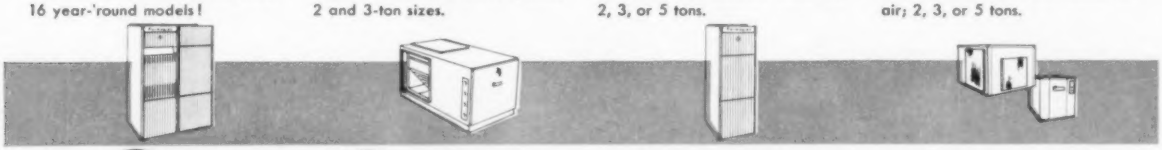
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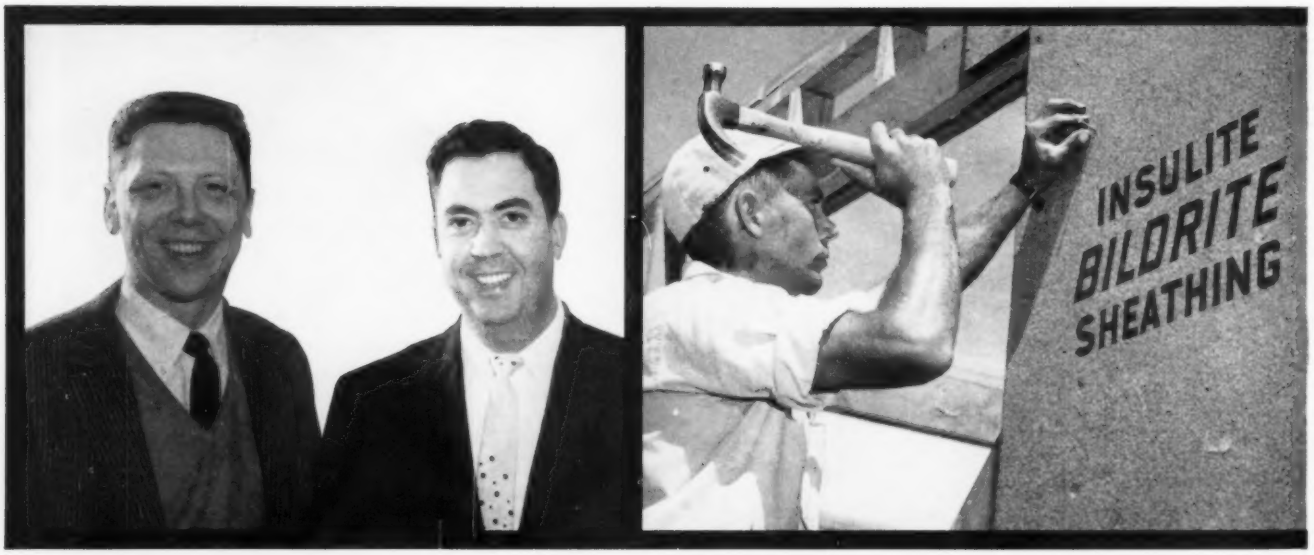
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Address.....

City.....Zone....State.....

Award winning tri-level...



Smooth teamwork by architect and builder made this handsome Kansas City home an outstanding example of good design at moderate cost. Ward H. Haylett, Jr. (left) of Linscott, Kiene & Haylett, Kansas City, supervised the design job. Jed K. Giles (right) built and sold the home.

Saves time, saves material. Bildrite Sheathing cuts easily, handles easily, goes up fast. It reduces sheathing time as much as 46%, compared to wood. Virtually eliminates waste, too. Asphalt on the fibers protects against moisture, yet leaves Bildrite completely permeable to water vapor.



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"Quick sale at $31,500 shows how well architect balanced design and cost factors..."

says Jed K. Giles, Kansas City builder-engineer. This home was sold within 3 days after its first showing. Throngs of visitors looked through it, and nearly all guessed the price to be much higher.

Obviously, the choice of Bildrite gave Architects Linscott, Kiene & Haylett, A.I.A., important advantages. Sheathing cost was reduced about $100 as compared to wood, and this economy helped pay for "extras" such as Insulite Roof Deck, topped with wood shingles applied to stripping.

Definitely out of the ordinary, this tri-level design appeared in the Kansas City Star series featuring outstanding residential architecture by Kansas City architects; and was featured in House & Home magazine as an award winner among "56 Homes For 1956."

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THE RECORD REPORTS
NEWS FROM CANADA

(Continued from page 36)

representative of the Ontario Association of Architects: L. M. Bennett, representing the Association of Professional Engineers of the Province of Ontario; G. Bye, general contractors' representative; R. W. Cornell, trade contractors' representative; and E. W. Taylor, manufacturers' and suppliers' representative.



QUEBEC CITY WILL HAVE AIR TERMINAL BUILDING

A $750,000 air terminal is nearing completion at Quebec Airport in Ancienne Lorette.

The first floor of the new building will be the public area, and will include a space for ticket and reservation counters, baggage handling and waiting room, as well as a snack bar and restaurant. The second floor will house offices for the Radio and Meteorological Services of the Department of Transport, air traffic control and the airport manager, airlines offices and associated services.

Designed with special attention to the possibilities of future expansion, the building has a steel frame which could support additions to the second story; expansion could also be effected by adding to the length of the building.

Architect is the Department of Transport under chief architect W. A. Ramsay.

C.C.A. PRESIDENT CONDEMNS BUILDERS' BELOW-COST BIDS

A. Turner Bone, president of the Canadian Construction Association, has criticized the practice among some contractors of "cut-throat" competition resulting in below-cost contracts. Although believing that intense competition for construction contracts acts as an incentive to increase efficiency and to keep prices at the lowest possible level, Mr. Bone warned that going further and bidding below cost is producing dangerous results.

"In spite of public opinion to the contrary," he said, "many contractors operate at a loss.

"We all recognize that the competitive nature of our business is responsible for the development of efficient procedures; of new methods and materials by which

(Continued on page 44)

The Ideal Sign for Shopping Centers

Shopping centers everywhere are adopting Wagner Changeable Boards because:

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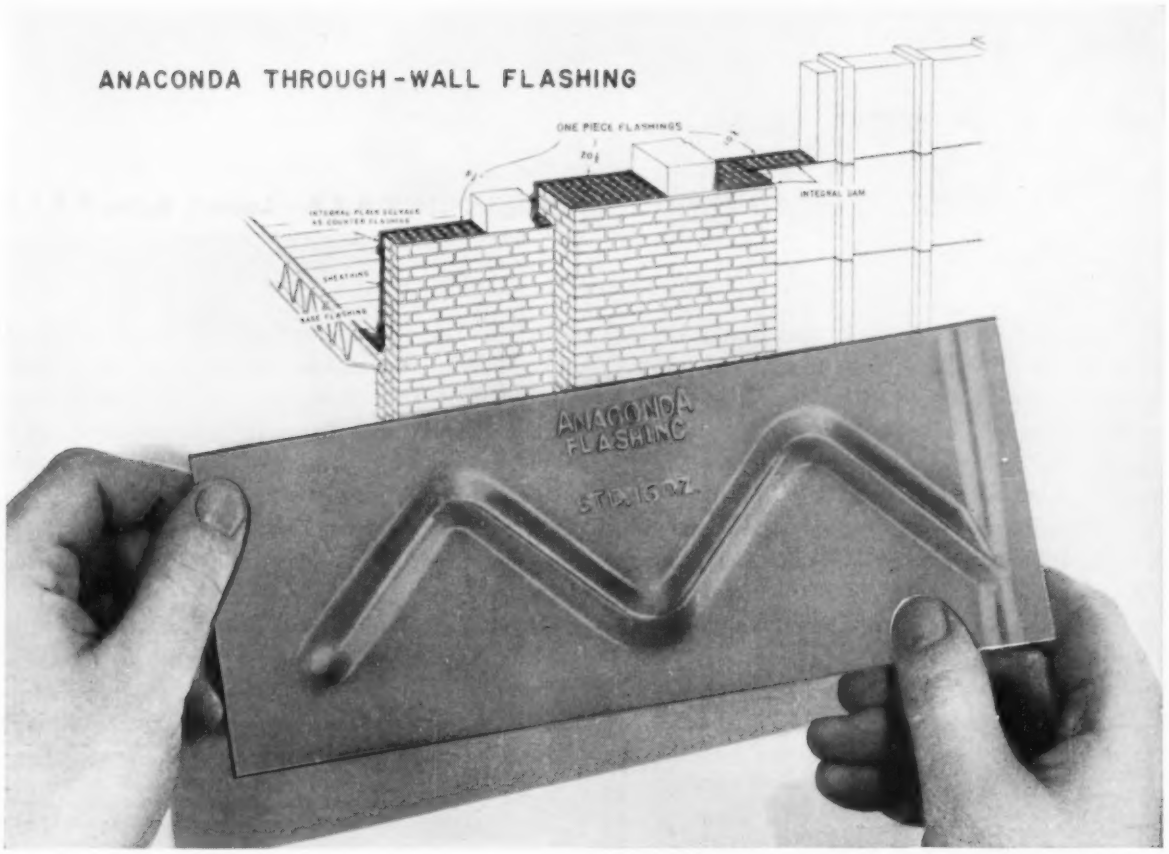
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One of two 28' x 38' double-faced signs installed at 79th & Cicero Ave., Chicago

Literature which includes design and construction information, will be sent on request.

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ONE OF A SERIES | *how prominent architects use* **TECTUM**

Modern architecture at Yale . . . art gallery and design center by Douglas Orr, F.A.I.A.—Louis I. Kahn, F.A.I.A.

YALE UNIVERSITY ART GALLERY and Design Center is a remarkable dedication to honesty and uncompromising structural-design expression. It is an infinitely flexible, open-loft structure with almost total integration and disciplined order. Most extraordinary is the 2 ft. 4 in. deep tetrahedral, ceiling-floor diaphragm which contains most wiring, air-distribution lines and trolley duct for lighting units. Concealment of these was not necessary as the structure provided its own ornament. And, with Tectum on the job, sound control was well in hand.

Here, Tectum was used as an acoustical plank—the form for, and integral with, each surface floor slab (see detail to the right, below). Four factors determining selection of the material were met by Tectum. Structural strength, a basic consideration, was more than adequate since Tectum is engineered to carry minimum loads of 200 pounds per square foot on economical spans. A noise reduction coefficient of .75 in the 2-inch plank helps to provide a quiet atmosphere in the galleries. As a natural insulator, Tectum contributes to greater interior comfort. And, safety is assured since Tectum is noncombustible.

If you are not familiar with Tectum, or its uses as a roof deck and finished ceiling, contact your nearby Tectum distributor for complete information—or see Sweet's files, 2e/Te. Tectum Division, Peoples Research and Manufacturing Company, 210 South Sixth St., Newark, Ohio.



Yale University Art Gallery and Design Center at night. Note how the "breathing ceiling" is used consistently throughout the building. Bolt, Beranek & Newman, Boston, Acoustical Engineers; Richard Kelly, Consultant of Lighting; Edison Price, Fixture Designer.



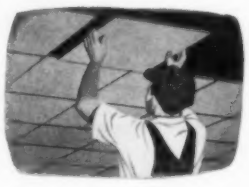
Paintings are exhibited here on remarkable "pogo stick" panels. Easy to install and remove, they provide completely flexible partitioning. Used singly or in groups, they may form the entirety or partial background of a show.

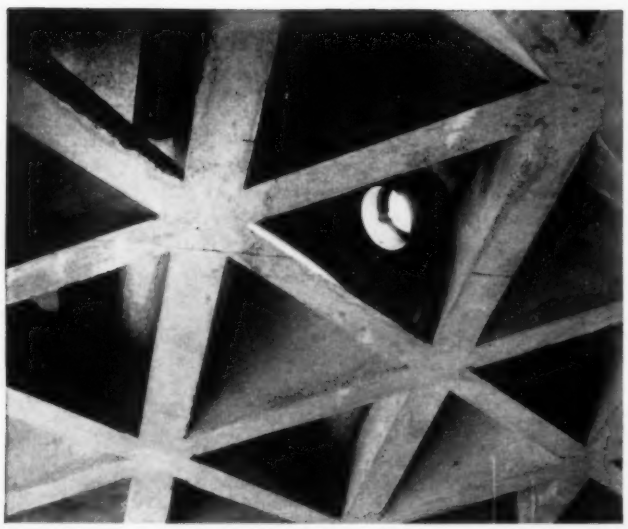


why lay a roof deck...

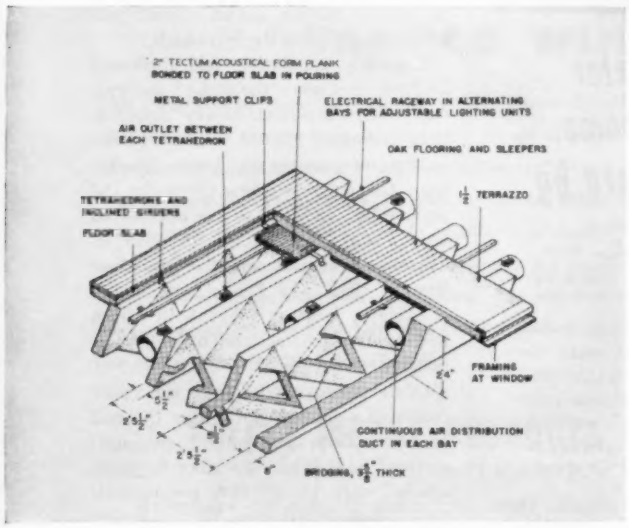


cover it with insulation...





Above, the original texture of Tectum can be seen in the triangle to the upper left. Tectum, like the framing members, was not painted—nor will it ever need be. If, at a later date, Tectum should be spray painted, its acoustical value will not be impaired.





South facade and entrance area. Douglas Orr, New Haven, Louis I. Kahn, Philadelphia, Associated Architects; George B. H. Macomber Company, Boston, General Contractors; Meyer, Strong & Jones, New York, Mechanical and Electrical Engineers; Henry Pfisterer, New Haven, Structural Engineer.

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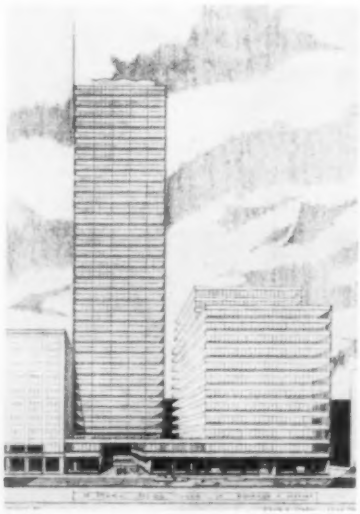
THE RECORD REPORTS
NEWS FROM CANADA

(Continued from page 40)

the same results can be accomplished at a lower cost; of greater use of machinery to make up for shortages of skilled and unskilled labor, etc. Savings in cost to an owner from such sources benefit all concerned," he said. "But when owners get cost savings through contracts executed at no profit, or at a loss, the benefits to them are more than offset by the disturbance to and general weakening of our business economy. It is this situation that we must try to avoid."

MORE ECONOMIC EXPANSION EXPECTED IN NEXT DECADE

The monthly Bank of Montreal *Business Review*, looking back over the last ten years and Canada's postwar economic expansion, named the increase in annual capital expenditure on new plant, equipment and housing "the dynamic force behind Canada's postwar growth." Although the *Business Review* doubted that capital expenditures could continue to increase at the same high rate, school, hospital, highway and municipal service needs as well as large projects in mining, manufacturing and power should keep the level high.



The Canadian Bank of Commerce plans a 38-story office building, reportedly the tallest skyscraper in the British Commonwealth, for Toronto. Architects are Page & Steele

Canada's population has increased 29.2 per cent since the end of the war, the bulletin reported. Heavy immigration, averaging 117,000 yearly, and the increase of younger and larger families were the major reasons given for the population growth. Recorded births have risen from 330,000 in 1946 to 440,000 in the 12 months preceding June 1, 1955. The *Review* foresaw the possibility, however, that both births and immigration might fall off somewhat in the next ten years.

Of the employment picture, the report indicated a steady shift since the end of the war from agricultural to non-agricultural jobs. While the labor force increased only by 750,000, non-agricultural employment rose by 1,000,000; about an eighth of this number went into the construction industry. There is a possibility, said the bulletin, of a "relative" labor shortage until the early 1960's.

"There seems good reason to believe," the *Review* concluded, "that growth, with its attendant benefits and problems, will continue to be the hallmark of the Canadian economy."

(Continued on page 46)

Terrace Hall with Kilnoise ceiling, Kent State University, Kent, Ohio





KILNOISE acoustic plaster specified for handsome Kent State dormitory by R.B. Dela Motte A.I.A.

OF FULTON, KRINSKY & DELA MOTTE, ARCHITECTS, CLEVELAND, OHIO

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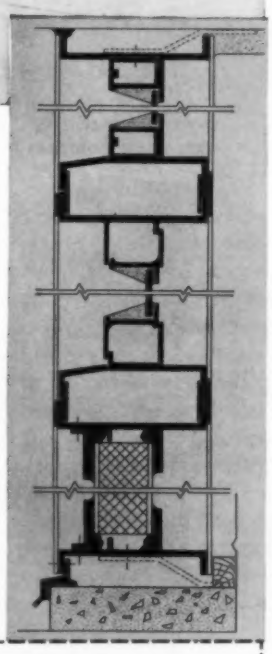
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The Flexon Expansion Compensators installed in the floor heating system piping of American Car and Foundry Division's new lightweight train of the future, the TALGO, are called upon for double duty. In addition to their normal function of expansion control, they contribute to ACF's design objectives of isolation of objectionable noise and motion when the TALGO is on the move.

Their exceptional performance under such operating conditions is a plus recommendation of their suitability for all types of buildings. Especially designed and engineered to replace outmoded, troublesome methods of pipeline expansion control, these units eliminate the noise of pipe creeping and assure long leakproof service. Easily installed, they are space savers that require no access panels because they require no maintenance—for the life of the piping system.

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In Canada: Flexonics Corporation of Canada, Ltd., Brampton, Ontario

THE RECORD REPORTS NEWS FROM CANADA

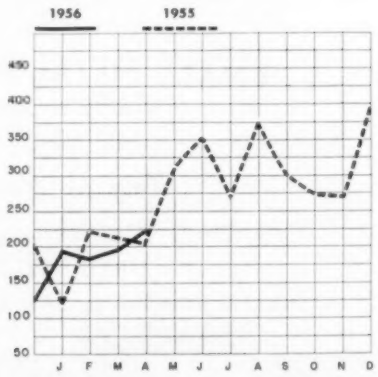
(Continued from page 44)

NEWS NOTES

The Manitoba Association of Architects held its annual meeting on April 28 at the University of Manitoba. . . . **An annual $1500 fellowship** will be awarded to a graduate student taking the course in town and regional planning at the School of Architecture, University of Toronto; the donor is realtor George B. Ridout. . . . **The Ontario Association of Architects** has announced the admission of the following architects to membership: J. Yves Fortin, Walter L. Bielaska, Michael G. C. Ellwood, George Z. S. Gerencser, William John Hilliker and John Duncan McGregor; D. B. McIntyre and John I. Rempel have been restored to membership. . . . **The Province of Quebec Association of Architects** has also admitted some new members: Stanley Wegler, Frank James Palin, Andrezej Madeyski, Jean F. Morin, Jacques Coutu, Alan Crossley, and E. J. Hilinski. . . . **A housing "squeeze,"** says the *Financial Post*, will be the consequence of credit restrictions recently introduced by the Bank of Canada; this prediction was made despite the fact that starts for the first three months of 1956 were ahead of last year. . . . **Upcoming events:** Annual Assembly, Royal Architectural Institute of Canada, Banff Springs Hotel, Banff, Alta. — June 6–10; National Planning Conference, Community Planning Association of Canada, Chateau Laurier, Ottawa — Oct. 29–31.

(More news on page 48)

Contracts Awarded: Comparative Figures*
(in $ million)



* Compiled by the editor and staff of The Building Reporter, from information collected by MacLean Building Reports



OCEAN AIR ELEMENTARY SCHOOL, CITY SCHOOL BOARD, NORFOLK, VIRGINIA



John A. Simpson, A.I.A.
Architect, Norfolk, Va.

Another new school saves money with the Nesbitt Series Wind-o-line System

The $600,000 Ocean Air Elementary School of Norfolk, Virginia, will have "the thermal environment most conducive to learning" because Architect John A. Simpson specified *heating and ventilating by Nesbitt.*

By designing for a zoned, two-pipe, forced-hot-water installation, the architect reduced costs with the Nesbitt Series Wind-o-line System. Mains and piping were simplified; night controls and approximately 1,000 lineal feet of pipe covering were eliminated.

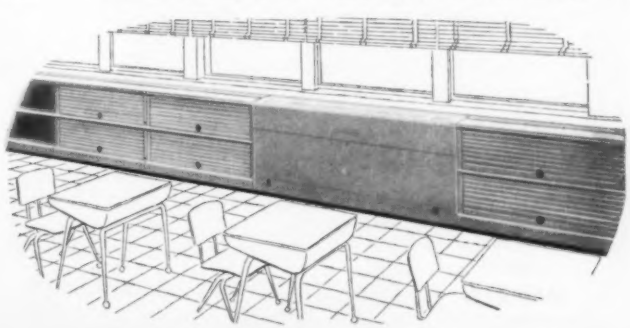
The key to the economy of the Nesbitt Series Wind-o-line System is the Syncretizer's hot water heating element which multipasses a much smaller quantity of higher temperature water than is circulated by conventional systems. This reduces the size of pipes and pumps and permits the Wind-o-line tubing to serve as supply and return piping for entire classroom wings, thus eliminating mains, costly pipe trenches, coverings, and runouts. Without other investment, the system's gravity heat maintains overnight temperatures.

Besides economy, the Nesbitt System offers greater comfort and protection. With the water temperature regulated by outdoor temperatures, the desired thermal environment is better maintained in every classroom and Wind-o-line protection along exposed surfaces is constantly related to actual needs.

Other systems requiring pipe trenches and runouts cost up to 20% more in construction, equipment and installation expenses. It will pay you to go Nesbitt.

Write today for Publication 104

Wind-o-line radiation may be had in wall-hung casings integrated with the Syncretizer, or recessed in standard Nesbitt storage cabinets. Architect Simpson chose this "Nesbitt Package" because it saved 30% over custom wood shelving.



Nesbitt

SERIES WIND·O·LINE SYSTEM

MADE AND SOLD BY JOHN J. NESBITT, INC., PHILADELPHIA 36, PA. SOLD ALSO BY AMERICAN BLOWER CORPORATION

CAA STUDIES EFFECTS OF JETS ON AIRPORT DESIGN

The airport of the future will need to be different and herein lies a challenge for architects.

Just about now the Civil Aeronautics Administration is taking delivery on a B-47 jet transport loaned to it by the Air Force. This laboratory plane will be flown into many airports of the country for the sole purpose of practical research. Its operation will seek answers to new questions posed by the jet age, prime among which will be this one: How should airports be designed to handle jets?

"It certainly is going to be different," says Charles J. Lowen, the administrator of civil aeronautics. As head of CAA he faces the problem of fitting the jets into traffic control operation and of revising that operation to fit the new conditions.

Succinctly, Administrator Lowen stated one of the major posers, terminal passenger traffic. "It seems to me we should be considering complete separation of passengers by some means, and on some acceptable basis, in order to speed up their handling. If we dump planeloads of 125 to 160 passengers on a present-day airline ticket counter, we have confusion aplenty."

CAA is beginning to ask itself what kind of a different airport will be needed and here is where the architects' services will be all-important.

One possibility Mr. Lowen has discussed would put four separate terminal buildings on a 5000-acre airport, each specializing in passenger traffic of a special nature. These would be so arranged as to keep circulation entirely separate (a kind of separation now practiced, for example, at Honolulu Airport, where inter-island traffic is handled on one side of the field, trans-ocean traffic on the other.)

Is that the solution, asks the CAA head, or can there be a single terminal building of "inspired design" that would handle the increased traffic anticipated? All the possibilities are under consideration in CAA, he says.

As the B-47 laboratory plane circulates among the nation's airfields, it will collect data on en route operation and terminal operation that will make it easier to find answers to these questions.

The transfer of passengers and baggage between terminal and plane is another problem facing the authorities. "We must get the passenger off the ramp, and this probably means flying bridges from the building to the plane door," Mr. Lowen believes. "We must get the baggage off the plane and into the passengers' hands in reasonable time, and this means we need architects with the touch of genius to design that part of our terminal buildings." This will also entail application of principles already outlined in CAA's manual, "Airport Terminal Buildings."

Runway length and strength is still another problem. On this subject, CAA says it is in a period of waiting on manufacturers to settle on several points dealing with design and total weight of the future jet transports. Latest information points to a gross weight extending from 250,000 to 300,000 lb.

(Continued on page 342)

WADE

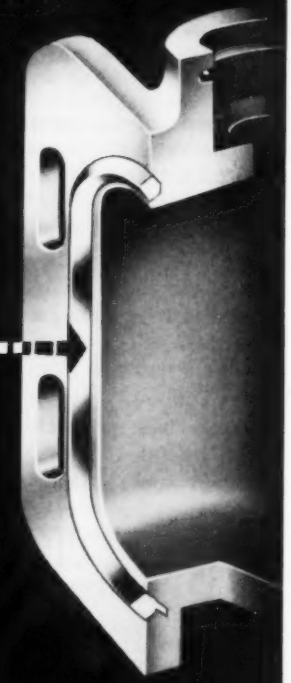
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WANTED: A NEW DEFINITION OF ARCHITECTURE

"The practice of architecture is the offering to perform, or the performance of, professional services in connection with the design and construction of building projects, their sites and equipment, by means of analysis of the requirements for their use, character and organization, preparation of drawings and contract documents, including specifications and agreements, cost-estimating, coordination of services supplied by others, and supervision of construction to obtain compliance with drawings and specifications."

CASPER HEGNER'S suggested definition (above) of the practice of architecture elicited an unusual number of letters of comment. Here are excerpts from them, presented for further comment from other interested readers:

THE NEED FOR a clear, concise and generally acceptable definition of the practice of architecture, as set forth by Denver architect Casper Hegner in the March Western Section, is real and urgent, especially in those states where new practice act legislation impends. The variety of present definitions is almost as great as the number of state practice acts, and the lack of unanimity on so basic a thing as the definition of architectural practice is a confusion not only to legislators — and to the public — but to the profession itself.

Why is there no one definition acceptable to all the profession? Is it because conditions of practice vary so fundamentally from state to state? If so, the definition is being sought negatively — restrictively — rather than positively as a benefit to public and profession alike. Is it because architects are not sure in their own mind how to describe what they do in practice? Or is it because the main objective of such a definition (to provide a legal description which can serve as a guide in court cases) has eluded the definers?

A legal definition must answer the question, What is the practice of architecture? It does not ask, What is the art, or even the science, of architecture? The services of architecture can be defined; its aspirations cannot. The esthetic aspect of architecture is an aspiration, not a guaranteed result.

Of what, then, should a legal definition consist? This is a question which needs careful consideration. Should it detail all the services of architectural practice, or should it describe them generally? Should it include a description of the training of the architect? Has esthetics a place in such a definition, and if so, who shall arbitrate any discussion of the esthetic merit of a building?

As Mr. Hegner pointed out, if architects don't provide a definition of their own work, someone else will do it for them. Who can foretell the results of that?

Comments and discussion of this subject, and suggested definitions of the practice of architecture are invited for inclusion on this page.

How do *you* define the practice of *your* profession?

E.K.T.

Brevity is Essential

Mr. Hegner is certainly right in being concerned that there is no uniformity in the legal definition of the practice of architecture among the several states and that in some way this definition should be standardized. His definition is a good one, but for incorporation in registration laws, I feel it should be briefer. I suggest this shortened version:

"The practice of architecture is the offering to perform, or the performance of, professional services in connection with the design of buildings, their sites and equipment, and the supervision of construction of these projects."

Edwin W. Carroll, Architect
El Paso, Texas

California Evolves a Definition

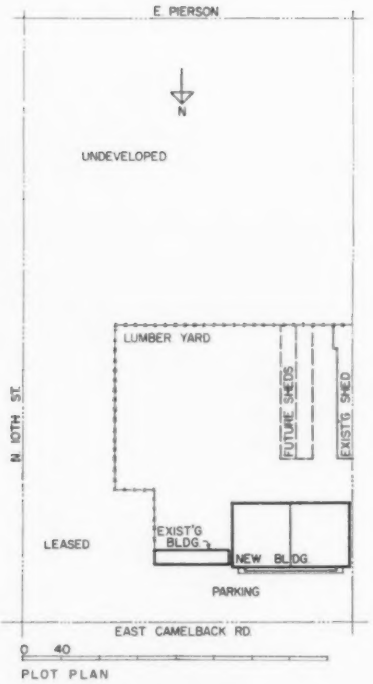
The following definition of the practice of architecture was evolved by an advisory committee of the California Council of Architects after several years experience in discussion of this problem with our California State Legislature:

"A person engages in the practice of architecture within the meaning and intent of this chapter who holds himself out as able to perform or who does perform any service which requires or would require the application of the science, art, and profession of designing buildings and related facilities wherein the safeguarding of life, health and property is concerned, and including the preparation of customary instruments of service such as drawings and specifications, and usually the supervision of construction

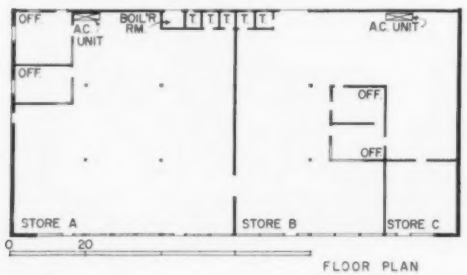
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LUMBER AND HARDWARE STORE ON A BUSY STREET



PLOT PLAN



FLOOR PLAN

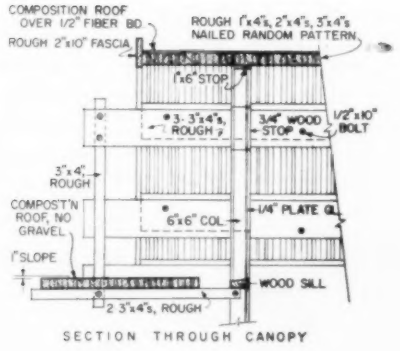
THE PRIMARY REQUIREMENT in this building's design was that it should "look like lumber", since it was to house a lumber and hardware store (and provide rental space for an insurance office as well). This requirement suggested to the architect the idea of adapting the old slow-burning mill floor system for the ceiling construction: random width laminated Douglas fir strips are supported on rough timbers, a simple and effective way of covering the large open space which forms the building's interior. End walls of pumice concrete block support the framing timbers. The same laminated construction is used on the canopy along the building's front. Parking for customers' cars is provided in front of the building, and is directly accessible to the busy thoroughfare on which it is situated.





Entz-White Building, Phoenix, Arizona

Ralph Haver, Architect *Lowry & Sorenson, Mechanical Engineers*







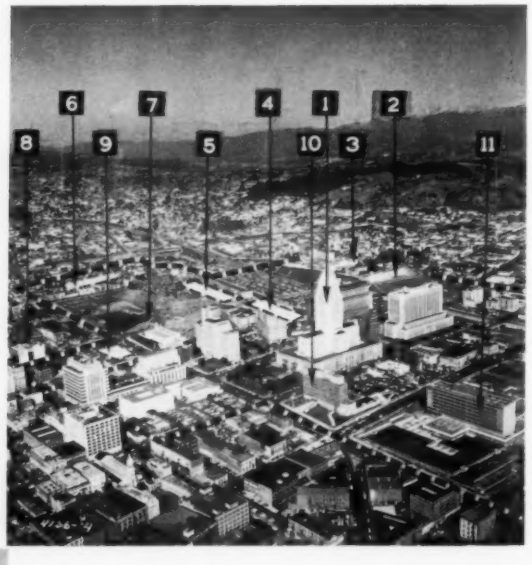
Canopy across building front consists of laminated wood strips laid over beams hung from brackets. Rough sawn wood was used to accentuate requirement that building "look like wood". Openness of street front under low, spreading roof line is particularly striking at night





CIVIC CENTERS AND PUBLIC BUILDINGS FOR EXPANDING CITIES

1. City Hall
2. Fort Moore Hill
3. Board of Education Building
4. Hall of Records
5. County Administration Building
6. Water and Power Administration Building
7. County Court House
8. Bunker Hill Redevelopment Area
9. State Office Building
10. City Health Administration Building
11. Police Administration Building

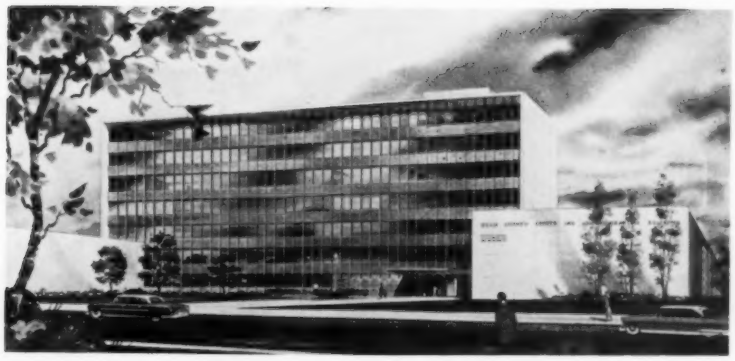




Los Angeles' 223-acre Civic Center, largest except for Washington, D. C., extends from First Street (in front of Police Administration Building) to Sunset Boulevard (behind Ft. Moore Hill) and from Figueroa (upper left) to Alameda (extreme lower right). Under construction is County Court House (excavation at upper left). In design stage: Hall of Records, County Administration Building, Water and Power Administration Building, State Office Building. Most recently completed is Police Administration Building (left), Welton Becket & Assoc. & J. E. Stanton, Architects

West Covina, Calif., in fast growing San Gabriel Valley east of Los Angeles, has planned a civic center which will eventually include city hall, public protection building, county health and courts building, auditorium, band shell, public library and art gallery. Designed to serve the area's present 30,000 residents, it will also provide for expected 80,000 population 10 years hence. Albert C. Martin and Associates are architects and engineers

TIME WAS when it was the metropolis which had a "civic center"; the smaller town was content to have a "town square" with a town hall and perhaps a county court house. Now, however, even the small town often finds its needs are too complex to be administered from one small building and a civic center of sorts has become no rarity. Although master-planned civic centers are as yet relatively rare in western cities (Los Angeles' center is one of the few), the number is on the increase, especially in such areas of rapid population increase as southern California where new communities replace bean fields and orchards almost overnight. The civic center of the metropolis includes very large city, county and federal buildings, but the civic center of the smaller city usually is devoted to municipal buildings with an occasional county court house or combination office building. West Covina's civic center, shown here, is unusual in including an art gallery. Sometimes such public buildings as sports arenas, like the Los Angeles Coliseum, are better located away from the civic center because of transportation problems and parking needs; sometimes, like the auditorium for Santa Monica, they fit into the overall plan for the center. Kern County's new court house, replacing the old building destroyed in the 1953 earthquake in Bakersfield, was also a logical part of the city's civic center group.



When the 1953 earthquake destroyed many of Bakersfield's older buildings, including the Kern County (Calif.) court house, it precipitated development of plans for a new civic center where county health building, library, jail and courts and administration building could be located adjacent to municipal buildings. Construction of seven-story court house building will start soon. Ernest L. McCoy is architect



New sports arena with permanent capacity of 18,000, expandable to 35,000, is for sports, trade and convention events only; no cultural or musical events can take place there. Interior colors will be chosen with color TV-casts in mind. Stiles & Robert Clements are architects and engineers



Santa Monica's projected auditorium will be located in existing civic center, and will provide for conventions, cultural, sports and community events. Floor tilts five feet for theater-type arrangement, or can be used flat for sports. Seating capacity is 2750. Welton Becket and Associates are architects and engineers



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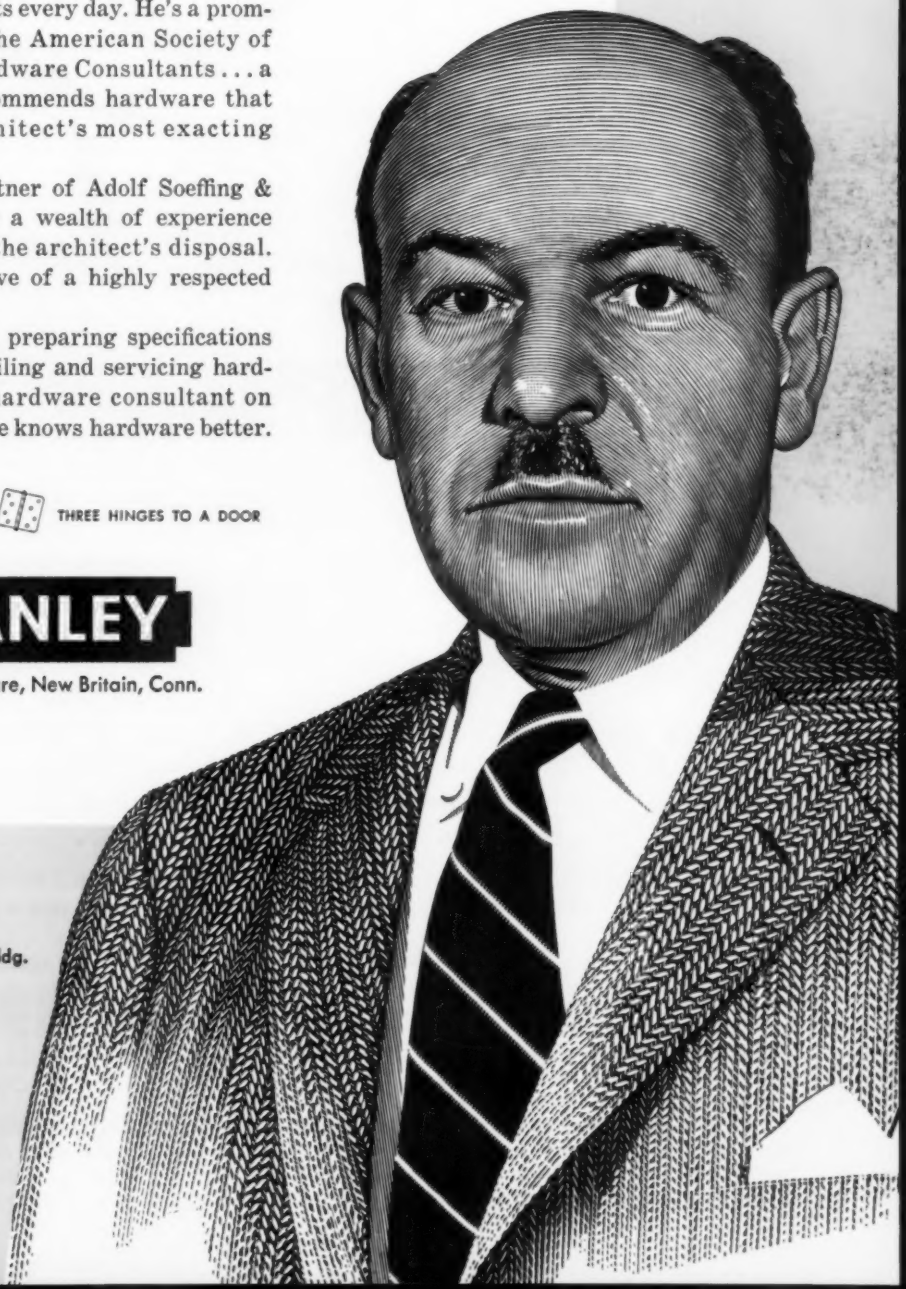
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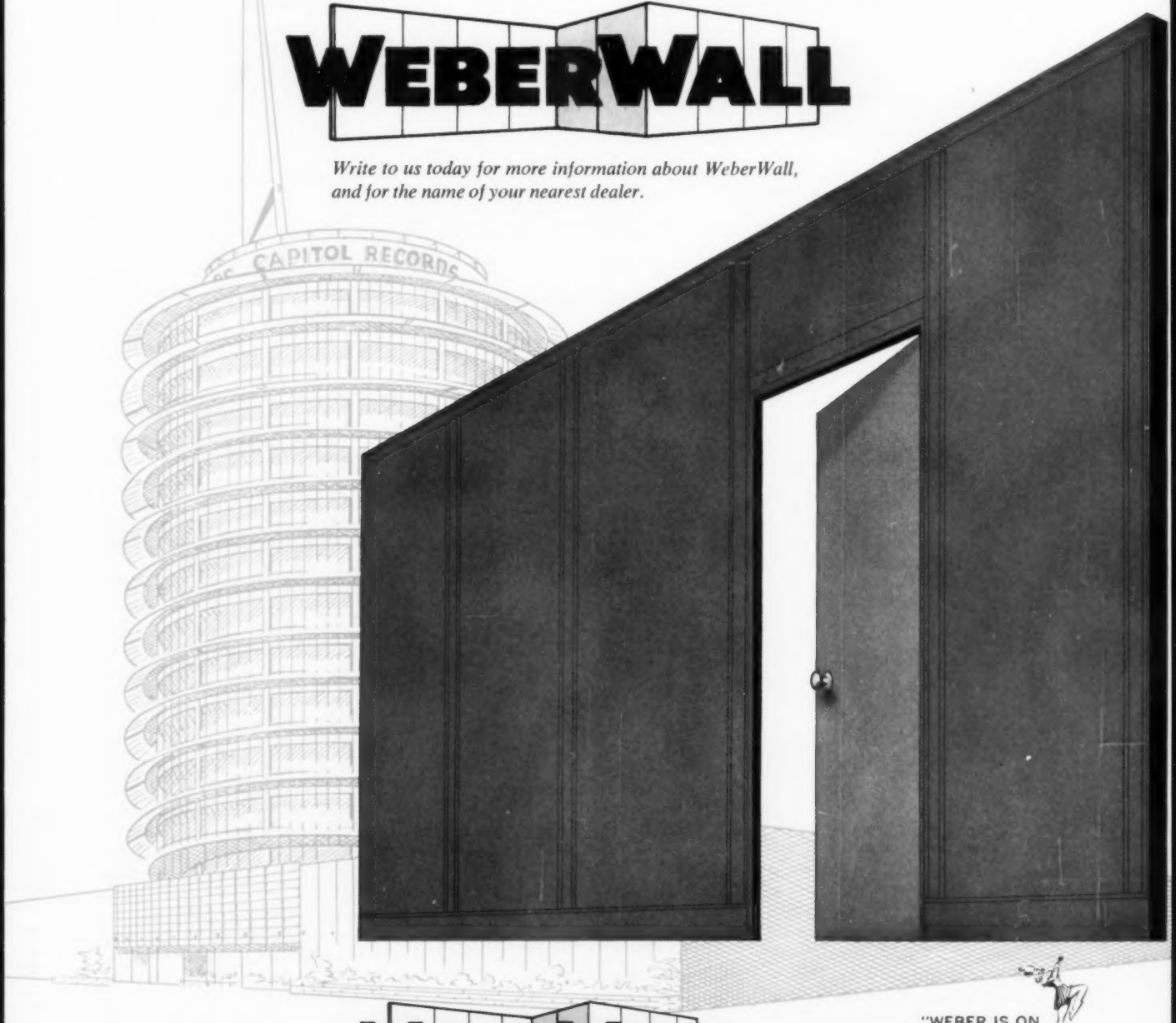
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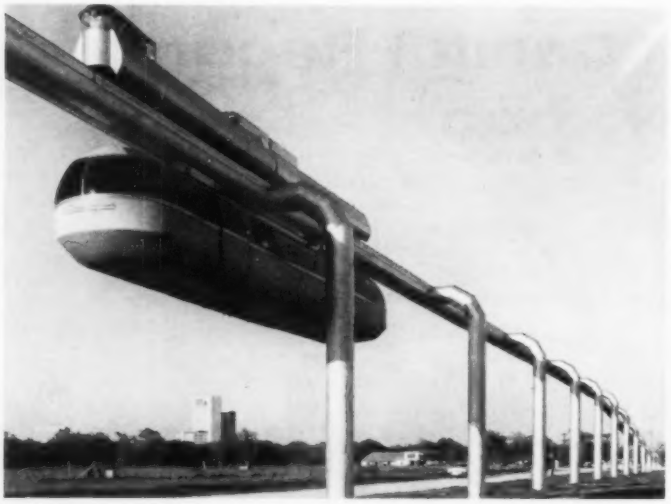


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MONORAIL PROPOSES AN ANSWER TO MASS TRANSPORTATION

Pilot Model Line in Houston is First to be Built in America

FEW PEOPLE have heard of the world's only operating monorail transportation system in Wuppertal, Germany, successfully operated since 1903 without a single fatal accident, but fewer yet have seen it. To acquaint the U. S. public with this form of transportation and at the same time test and promote a new design which provides a noiseless, fast (up to 250 mph, with 60 mph an average speed) operation, Monorail, Inc., a Houston, Texas, company which wants to manufacture and finance (but not operate) monorail systems for cities, has built a 970-ft pilot line at Houston's Arrowhead Park.

The Houston system, called Skyway by its owners, is a far cry from Wuppertal's half century old, noisy, slow (25 mph) monorail line. Skyway's coach is a 55-ft long steel-framed, plastic skin unit weighing 26,700 lbs which travels noiselessly, suspended from a 30-in. rail cantilevered from 30 ft J-shaped towers. Construction cost is low, say its manufacturers — $500,000 per mile (compared with $1,000,000 per mile for a freeway, and $1,000,000 per mile for subways), and construction time is short: the company estimates it can be built at the rate of one mile per week.

Cities like Los Angeles and San Francisco, plagued by increasing need to find a means of mass rapid transit, have taken occasional looks at monorail proposals as possible solutions to their planning and transportation problems. But so far no such line exists outside Germany, and the test line at Houston.

L.A. DEDICATES MUSEUM DESIGNED BY WRIGHT

Los Angeles' first municipal art gallery was dedicated recently with official ceremonies at the opening of a retrospective exhibit of two centuries of American painting. Paul R. Williams, Los Angeles architect and president of the Municipal Art Commission, Kenneth Ross, general manager of the Municipal Art Department, and the city's Mayor Poulson represented the city's official interest in art.

The building which is now the municipal museum was designed by Frank Lloyd Wright as an exhibition gallery for the display of the comprehensive survey of his work, "Sixty Years of Living Architecture." After the exhibition had been sent to the Far East for showing the building was donated to the city. It is located on the hill property which was formerly the Barnsdall Estate and is adjacent to the Wright-designed Barnsdall house.

OREGON PICKS SITE FOR NEW MENTAL HOSPITAL

A 506-acre site in the rolling countryside near Wilsonville, Ore., on the Portland-Salem highway is the site finally selected by the Oregon State Board of Control for the new $14,000,000 mental hospital which the state plans to build. Selection of a site had been under way for some time, with three locations under consideration up to the last.

The new hospital, which will ultimately have 1500 beds, was approved by vote in the 1954 election. The law authorizing its construction stipulated that its site must be within 20 miles of Portland. The Wilsonville site meets the requirement.

Construction will get under way on the first unit as soon as possible after working drawings are completed. Since the legislature has already appropriated $6,300,000 for this 450-bed unit, no delay for funds is anticipated. The project will not be completed for some years because of the large amount of money involved, but the first unit will be a complete hospital.

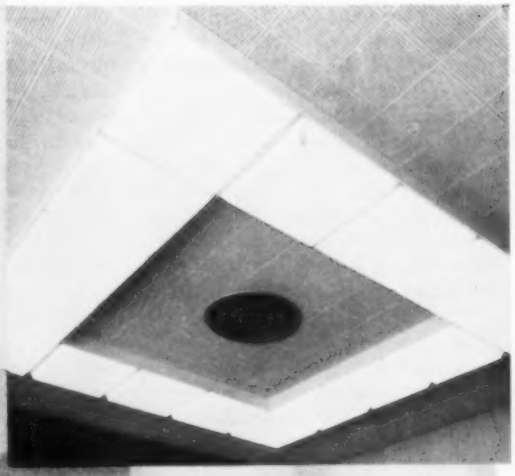
Glenn Stanton and Associates, Portland, are architects for the project.

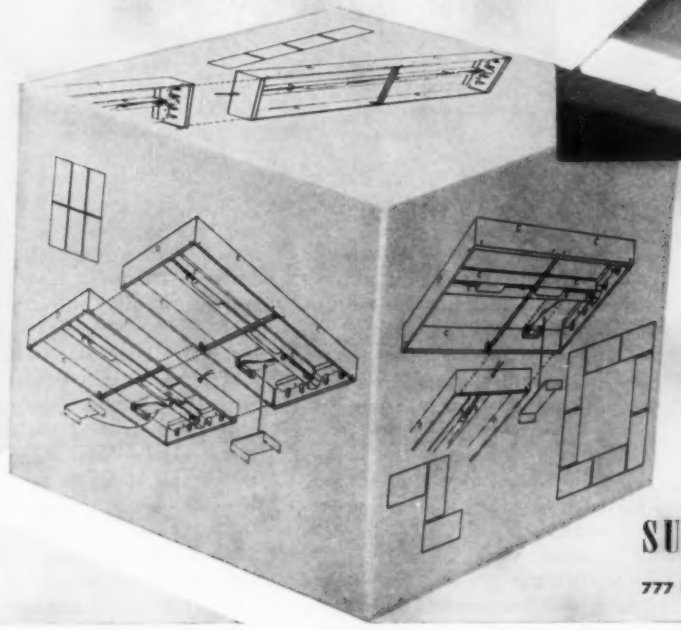


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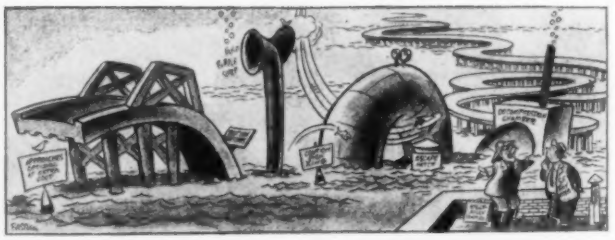


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NEW SF BAY BRIDGE FEASIBLE BUT COSTLY

ANOTHER BRIDGE will cross San Francisco Bay someday soon as a result of action by the 1955 California Legislature which recently approved a proposal to span the Bay south of the present Bay Bridge. (A new bridge north of the Bay Bridge will open to traffic sometime this fall.) The legislation authorizes construction of a bridge between Third and Army Streets in San Francisco and Bay Farm Island in Alameda County on the East side of the Bay.

This much-disputed project follows a circuitous route between these two points, made necessary because of the fact that the Alameda Naval Air Station requires considerable in the way of air lanes over the Bay. One source of argument over the suitability of crossing the Bay along this route is that the bridge will automatically limit any further development of air lanes over the Bay — a potential need for future commercial as well as defense airplane landings and take-offs. The route as proposed by the Division of San Francisco Bay Toll Crossings of the California Department of Public Works is tangent to the southerly boundary of the Navy's restricted area, a fact which adds fuel to the fires built by opponents of the project.

The "Southern Crossing," as the bridge has been dubbed in the press, has been a controversial matter for years, and even though the project has been officially authorized now, its progress through construction may not be uncomplicated. Because the new crossing will have to be financed in part, at least, by tolls, and because its approaches are an expensive part of the overall plan, the project is already being argued on these bases.

Furthermore, from an engineering standpoint the proposed design involves "difficult and unusual problems," according to Norman G. Raab, State Projects Engineer, which although solvable are nevertheless admittedly complex.

Because the cost of the project is great, two versions have been presented for consideration. One includes all approaches and will cost, if built, a whopping $327,877,000. The other cuts out some of the approaches and connections to freeways and would cost an estimated $241,430,000. Tolls on the first version would have to be 35 cents. (Tolls on the Bay Bridge, due to run out this summer, have been 25 cents.) If the abbreviated version were built, tolls could be 25 cents — a figure more to San Francisco's liking as it is committed to its citizens on a 25-cent toll.

But since the Bay Bridge could become a toll-free bridge this summer, the problem of tolls is complicated. The tolls on the Bay Bridge would have to be continued as a further means of financing the Southern Crossing, and the prospect is not a popular one.

But the most controversial point of all (aside from the great cost) is the route and the problems which it carries with it. As planned, the crossing involves three kinds of structures: two sections of trestle, running across the water; three underwater tubes, each 6000 ft long, anchored to two sand islands, to provide a 50-ft-deep, 1500-ft wide ship channel; and a toll plaza on an earth fill moll. In all, the crossing and its approaches will run, in its longer version, 24.5 miles, and in its shorter version, 11.5 miles. The central crossing over the water would be 7.5 miles long.

Of the problems connected with carrying out such a project, the soft mud bottom of the Bay is the one which most worries engineers. A marked degree of settling could cause "serious damage or destruction" to the tubes, so special measures would have to be taken by contractors to prevent any great amount of settling.

In spite of these difficulties, the project is "feasible from an engineering and a construction viewpoint," according to Raab.

Since the Southern Crossing has been assured by law, it will undoubtedly some day materialize. What holds it up now is the need for reconciliation of viewpoints and requirements in approaches on the part of San Francisco and East Bay cities most directly concerned with the bridge.

CALIFORNIA CONSIDERS THIRD NEW BAY BRIDGE

IN ADDITION to the nearly-completed Richmond-San Rafael Bridge across north San Francisco Bay and the proposed Southern Crossing between the city and Alameda in the East Bay, the state of California is considering erecting a third new bridge in the San Francisco area. The latest plan is to build a two-level bridge between San Francisco and Tiburon in Marin County which would touch down at Angel Island (and give access to a potential recreation area now all but inaccessible).

Approval of the Army Corps of Engineers is necessary before the State even continues its study of the feasibility of such a crossing. The Army's interest in the bridge is in the possible effect on navigational routes at that point.

Although construction would not start for some time even if Army approval were granted, the 1955 state legislature authorized $50,000,000 for a study to be reported at the 1957 session.

Tentative plans for the bridge indicate that it would be a high-level suspension bridge with a vertical clearance of 20 ft (which would make it slightly lower than the Golden Gate Bridge) between San Francisco and Angel Island and 185 ft between the island and Tiburon. The decks would provide for six lanes of traffic, with automobiles on the top deck and trucks and buses on the lower level. If the Bay Area should build a rapid transit system, the lower deck could be used to carry these vehicles.

When sketches of the route of the bridge were released in San Francisco earlier this spring, a howl of protest went up because the map showed that the bridge would take off just south of and pass directly over the center of Aquatic Park Lagoon, an area slated

(Continued on page 48-20)

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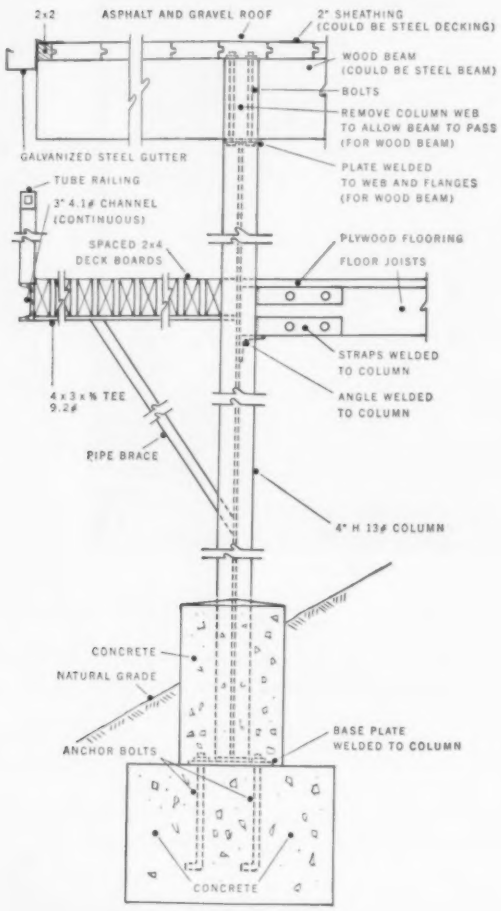
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A United States Steel report covering two more steel homes

Steel is at home on a hillside, too

Strength, precision, stability, permanence—these are some of the qualities that make steel a unique home-building material. And nowhere are these advantages of more value than in hillside construction. To get the most out of an elevated lot, a home wants to be open and glassy. With a steel frame, the architect can design a completely open, flexible plan unrestricted by conventional building methods. The steel homes featured here have no load-bearing walls—the steel frames are designed to withstand all lateral and horizontal forces. Thus the ceiling deck "floats" free of interior partitions. Steel framework also minimizes the need for leveling hillside property prior to building.

In Southern California, designer Craig Ellwood recently completed his fifth hillside home using a modular rigid frame composed mainly of 4" 13# H steel columns. In the pictures notice how he integrates structure and design: the rhythmic steel frame is the basis of the architectural expression. Exposed trim steel columns dramatize the structure with precision detailing that gives modern architecture its crisp, elegant look (cost of furring and wrapping of columns is also eliminated).

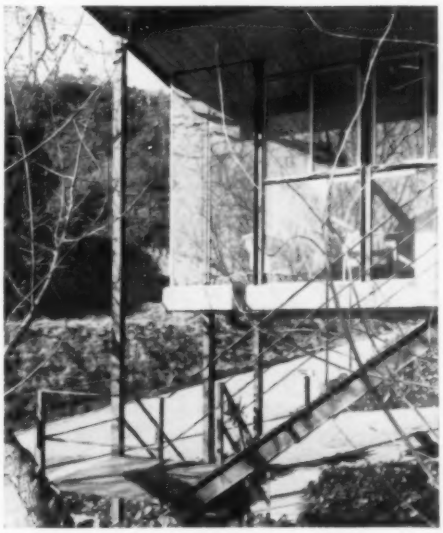


TYPICAL SECTION



Craig Ellwood's fifth hillside steel home illustrates how he uses individual concrete pads to eliminate costly continuous footings and allow openness of structure. Floor is supported by 6" 8.2# steel channels. The 1" square bars used for tie rods (diagonal bracing at right) eliminate the need for solid shear walls.

This home, the first hillside-design created by Ellwood using a modular steel frame, was built in 1952. Today, this 1400 sq. ft. house could be built for about $12.50 per square foot—including built-in appliances. The owner of this steel-framed home is forever protected against termites as well as warping and checking. Steel is permanent...and needs little upkeep.



ARCHITECTS & ENGINEERS: If you are interested in receiving more information on the use of United States Steel in residential construction, please send us your name and address, and we will forward the material when it becomes available. Write: Architects & Engineers Service, Room 1520, United States Steel Corporation, **Columbia-Geneva Steel Division,** 120 Montgomery Street, San Francisco 6, California.



The United States Steel shapes used in these homes are sold by steel jobbers in your locality.

Designer:
Craig Ellwood, Beverly Hills

Steel Erection:
Abraso Welding Works, Los Angeles

Western homes of the future are now building with steel... **UNITED STATES STEEL**

(Continued from page 48-1)

as a representative of the owner."

We are now seeking informal comment from engineers' and contractors' organizations in California which in the past have found fault with other versions we have offered.

Melton Ferris, Executive Director
California Council of Architects
San Francisco

Esthetics Must be a Part of the Definition

Architecture, it seems, is what remains after the termites, the draftsmen, the contractors, the engineers, the laymen and sundry have all taken a healthy nip; it is defined more readily by the myriad which it is not than by the integrity which it should be.

As it is a business, it belongs to business men, and as it is an art, it is as difficult of definition as is the summation of the arts it comprises. I am afraid that the definition which is sought is as different, and as difficult, for each individual who wishes the field circumscribed as it would be hard to outline what each practitioner would like to do as against the forces which seek to deprive him of the exclusive right to do it.

I think no really effective definition can be found until one is found for the value of the esthetic element because I believe architecture has nothing to contribute unless the esthetic element is basic within it. Without the esthetic, architecture is simply a 'do it yourself' program covered by a big sign saying "Don't do it yourself."

Philip S. Buckingham, Architect
Fresno, Calif.

Everything is Architecture

I like Mr. Hegner's definition, and while I would accept it as a part of a state practice act, I have questions on two phrases he uses: "the offering to perform" might lead to vague legal problems, and "their sites and equipment" might bring down the wrath of the landscape architects and possibly of the manufacturers. These are questions, not objections. As we don't like the encroachment of others on our proper field of work, we should not appear to encroach on the fields of others.

My own definition of architecture is an objective one: "Architecture is anything or everything, or conversely, everything is or has architecture." This is a broad definition, I know, but architects should be, if they are not, the broadest of thinkers. Another way of defining architecture is: "Good architecture is anything in which the design properly serves its purpose and is pleasing to the eye." Of course, we do have functionally good unbeautiful buildings and sometimes beautiful buildings that don't work. In my opinion, neither is good architecture. I can't say truthfully that too many of my fellow architects have gone along on this definition!

L. F. Richards, President
Coast Valleys Chapter, A.I.A.
San Jose, Calif.

Time and Progress May Bring Changes

In keeping with our feeling that specific duties which currently are accepted as constituting professional architectural service may vary with time and progress and should not be outlined in any lasting legal definition of the practice of architecture, we offer the following:

"The practice of architecture comprises all of the personal and professional services rendered by the architect pursuant to the conception, design and construction of building projects, their sites and equipment.

The skilled practitioner effects coherent, feasible solutions in conditioning space which satisfy the requirements of a specific building project. His service, presented in verbal, written or graphic form, is rendered in order that the conditioned space may afford greater health, safety and welfare to its occupants and the general public."

Lewy Evans, Jr., and
James C. Lamont, Architects
Billings, Mont.

Define it for the Kindergartners

Mr. Hegner's thinking is exceptional and he should be complimented on the work he has done toward a definition of the practice of architecture. His suggested definition is so good that I hesitate to offer any criticism of it. It occurs to me, however, that while our profession may understand the terms of the definition, they will probably be misunderstood by laymen. The layman, for instance, understands the construction of buildings but not their design; he understands equipment but not site planning; he will undoubtedly ask, what are contract documents, drawings, specifications, and so forth?

What our profession needs most is a definition that can be taught to and understood by kindergarten children and carried on and on, until we are understood as a profession much as the medical and legal professions are understood.

William Royce Smith, Architect
Salt Lake City, Utah

A Good Definition is a Challenge

I was pleased to find Casper Hegner's suggested definition of the practice of architecture in the March Western Section. Your invitation for comments and discussion should result in a very interesting and extensive response from the profession and possibly from some "legal beagles" who might wish to get their oars in the muddy waters. I truly believe that you will find this proposal will stimulate a very considerable interest on the part of a great many members of the Institute and the profession.

Bradley P. Kidder, Director
Western Mountain Region, A.I.A.
Santa Fe, New Mexico

I find this a true challenge but I think the answer should represent a broad cross section of our chapter and I am referring it to our very fine Committee on Public Relations. I expect to have something to report from them very soon.

Lloyd J. Lovegren, President
Washington State Chapter, A.I.A.
Seattle, Wash.

The subject of Mr. Hegner's editorial has been the cause of considerable discussion by the California Council of Architects which is attempting to revise the present Architects' Act in this state. In fact, the lack of an acceptable definition was one of the reasons that the passage of a revised act did not take place last year. Your interest in this is certainly appreciated.

Wayne S. Hertzka, President
Northern California Chapter
A.I.A., San Francisco

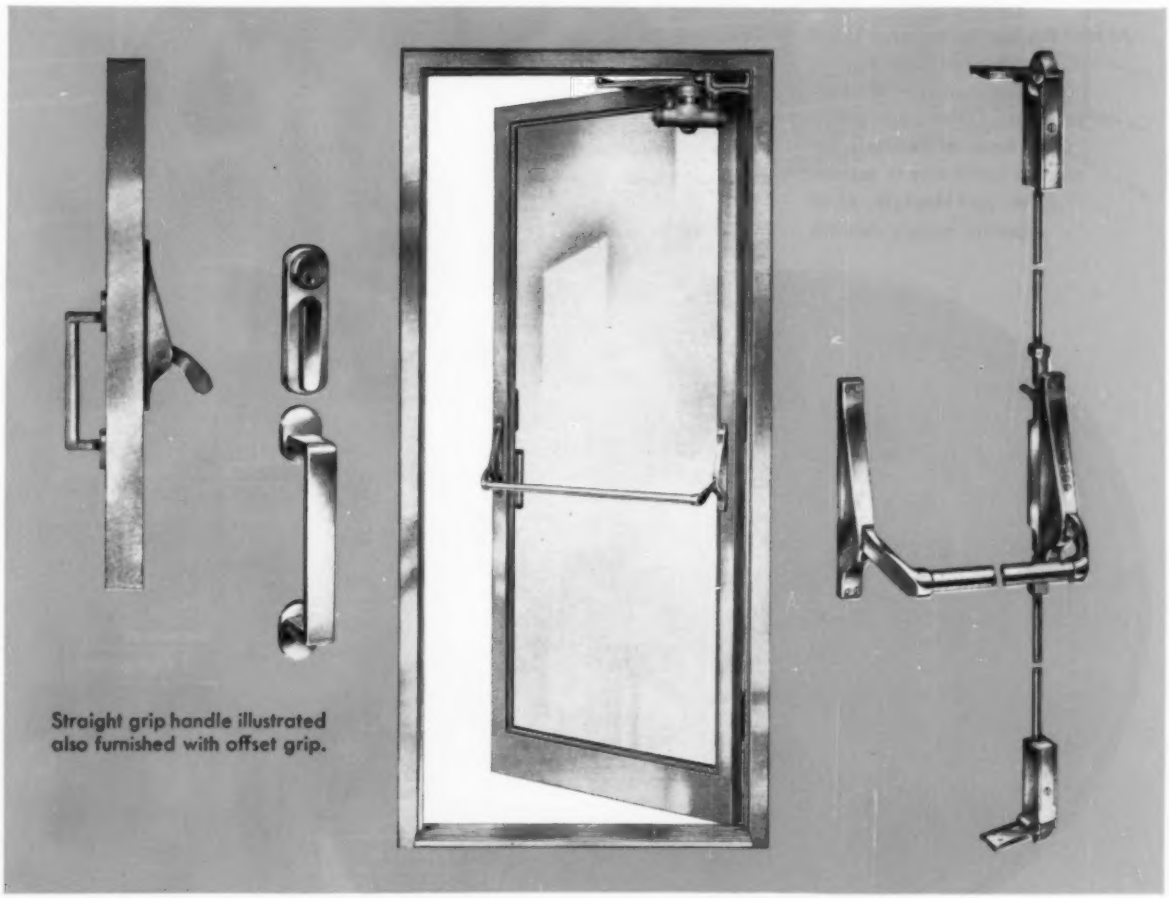
I thoroughly agree with Mr. Hegner's views on the necessity of succinctly defining the practice of architecture. Mr. Hegner's definition basically surrounds the services we offer.

Thomas M. I. Leake, Architect
Boise, Idaho

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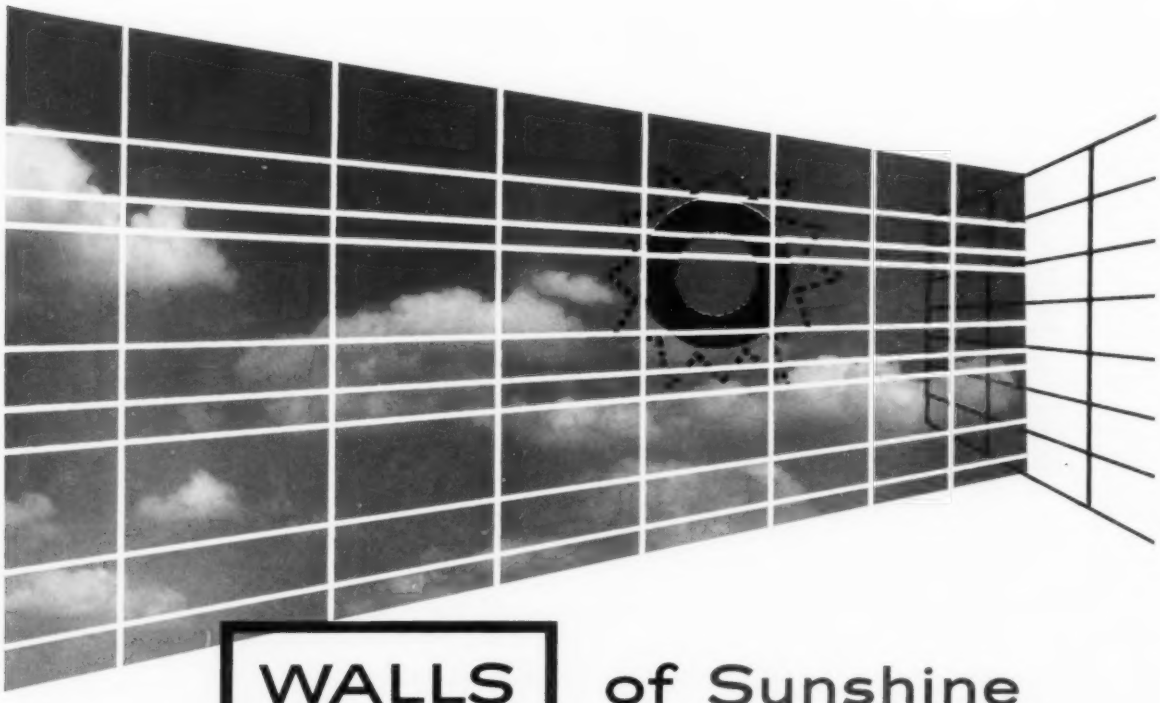


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LEADER IN METAL WINDOWS

CATALOGS IN SWEET'S

(Continued from page 48-12)

for possible development as an exhibit area for old ships of historic or other interest. While architects, planners, public and newspapers deplored the routing of the bridge over a recreational area, the Division of San Francisco Toll Crossings of the California Department of Public Works said that the route was used because of San Francisco's freeway program for a north-south freeway with which the Tiburon bridge would be aligned.

At the Tiburon end the bridge would be approached on the west side of the Tiburon peninsula, since an east side approach would not only make it difficult to link the bridge with the highway but would bring it into conflict with the Navy's submarine net station.

CANDELA REGRETS VETO OF AF CHAPEL DESIGN

FELIX CANDELA, Mexican architect-engineer, said on a recent visit to Denver that he had "liked the design for the Air Force Academy chapel and was sorry that the decision was made not to build it as designed." The chapel, designed by Skidmore, Owings & Merrill, architects for the academy, was the target for congressional criticism which eventually led to the abandonment of the original plans for the building.

"The chapel represented a forward step in architectural thinking," he said.

Candela passed through Denver on his way to the University of Nebraska at Lincoln where he was to speak. Besides heading his own architectural office, Cubiertas, A. L.A. S.A., in Mexico City, he is professor of design at the University of Mexico's school of architecture.

L.A. PLAN GROUP OKAYS HEIGHT LIMIT END

LOS ANGELES' City Planning Commission has unanimously approved a proposed amendment to the city charter which would permit construction of buildings of any height within the city. The present limit is a height of 13 stories. Now the proposal must be ratified by the voters before it can end the limitation.

Already approved by numerous civic and service groups, the amendment provides that "the total floor area contained in all buildings on any one building site shall not exceed 13 times the buildable area of the site." There would be no height limit, in practice.

The proposal has been under discussion for some time, during which a number of investment companies have indicated interest in building skyscraper buildings in Los Angeles if the ban on such high structures could be lifted.

After the City Planning Commission took its action on the raising of the ban, the city's Board of Supervisors asked the County Regional Planning Commission to discuss possibility of raising the county height limit to 20 stories.

The unlimited feature of the formula proposed in the amendment is not universally agreed upon. Earl S. Anderson, executive secretary of the Los Angeles Realty Board, has proposed to the Board of Supervisors that the new law provide that the total area of a new building should be up to 13 times the ground-floor area of the building. If ground floors were larger than upper floors this would, for all practical purposes, not limit the height of the building but it would prevent a concentration of too great building bulk, he said.

NEW CALIFORNIA CITY IS THIRD LARGEST

A NEW CITY, covering an area of over 96 square miles, was created in January in the East San Francisco Bay area when five small southern Alameda County towns voted to incorporate and become the city of Fremont. In actual area Fremont will be third largest city in California; in population, however, it has a long way to go: only 25,000 live within its brand new limits.

Fremont was formed from the unincorporated towns of Niles, Irvington, Warm Springs, Mission San Jose and Centerville, together with rural Washington Township.

The merger was motivated by problems of zoning, schools and utilities that had plagued separate communities in the area due to recent population increases. Since the new city is close to Oakland, further increases can be expected, and incorporation as a city will permit planning for future growth to prevent haphazard development.

SEATTLE VOTES FUNDS FOR NEW LIBRARY

SEATTLE WILL HAVE the new central library building it has needed for so long as a result of the $5,000,000 bond issue voted by its citizens in the March election. The old library building is 50 years old. Since the day when it was designed Seattle's population has increased fourfold, and the number of books housed in the library is 10 times greater than the number the building provides for.

The first attempt at getting a bond issue for a new building was turned down in 1950. Plans for the building, made before the election that year, will now have to be revised to meet newer standards and thinking in library planning, according to John Richards, city librarian.

DENVER'S BIG PROJECT PROGRESSING APACE

COURTHOUSE SQUARE since last November has been Denver's number one construction sight. This is the location of Webb & Knapp's big hotel-department store-shopping mall and parking garage project, as yet mostly a huge hole in the ground. The excavation has been unusually extensive because the basement for the hotel and department store building is to contain a four-level parking garage.

This is the project which Denver almost despaired of ever seeing in actuality. The site was bought some eight years ago and Denver was promised a construction project that "would be very good for Denver." But for seven years nothing happened. Then last year the promise was made good when William Zeckendorf, Webb & Knapp president, announced his plans for development of the property, a choice spot in downtown Denver.

Walls for the basement have been poured and pouring of concrete slabs for the parking levels has been under way during the spring. Completion of the entire basement is expected by September 1. Some 40,000 cubic yards of dirt, gravel and shale had to be removed in order to make the basement parking area whose lowest level is 55 ft below the street. In the course of excavating, a stratum of what was reported to be gold-bearing sand was found and Webb & Knapp officials announced that they would use what gold they obtained from it as partial financing for the excavation.

The proposed hotel will have a bar after all, as a result of action taken in the last minutes of the state's general assembly which voted to permit sale of liquor within 500 ft of colleges and universities. Until this becomes law, however, no liquor can be sold within 500 ft of Denver University — which is closer than that to the site of the new hotel-to-be.


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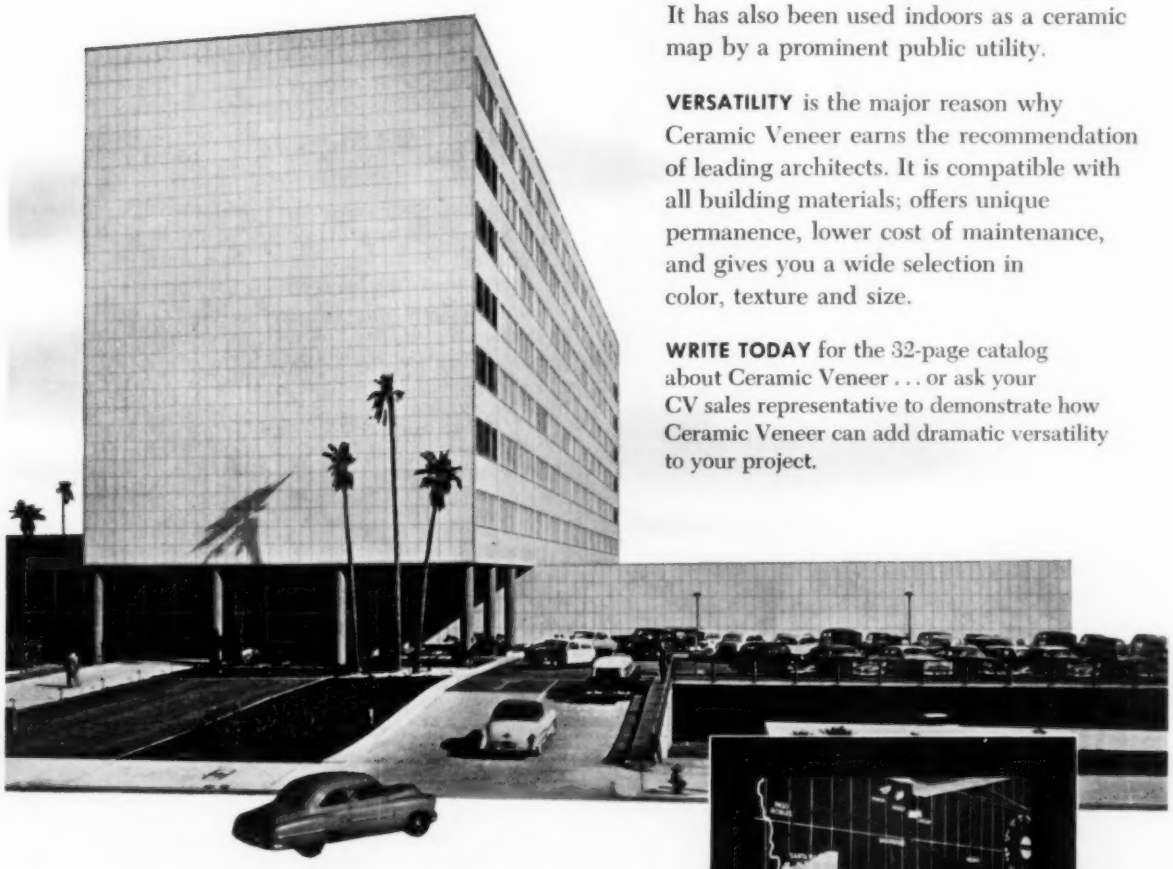
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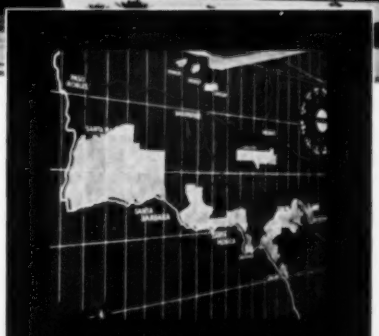
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PROFESSIONAL NEWS

Specifications Institute Elects

The San Francisco Area Chapter, Construction Specifications Institute, installed its first permanent slate of officers at its first annual meeting recently. Vincent G. Raney, architect of San Francisco, is president; Henry McClain, vice president; Al Barnes, treasurer; and Robert W. Harrington, secretary. The chapter was organized a year ago under the pro-tem chairmanship of Fred Ashley, architect, of Meyer & Evers, San Francisco. This is C.S.I.'s seventh chapter and the fourth to be established in California.

CCA Will Meet Oct. 10–14 In Yosemite

The California Council of Architects has announced that its 11th annual convention will be held October 10–14 in Yosemite National Park, with convention headquarters at the new Yosemite Lodge, now under construction. Architects who attend the convention will stay at the Ahwahnee Hotel; the Lodge and Camp Curry will be reserved for other convention registrants.

The display of building products and materials — an annual feature of CCA conventions — will be held in the old Lodge building but will be limited this year to between 50 and 60 exhibits. Some 75 producers exhibited at the 1955 convention in Santa Barbara.

William Corlett, San Francisco architect, is chairman of a special committee which will plan the convention's professional program.

Awards

DeNorval Unthank, Jr., Don Lutes and Richard Rhodes of the firm of Wilmsen & Endicott, Eugene, Ore., have taken the three top places in a recent competition held by the Unit Masonry Association of Oregon for designs using masonry products in residences. The competition was open to architects and designers in Oregon and Southwestern Washington.

Mario Gaidano, San Francisco architect, was awarded top prize in the annual national "Interiors Awards Program" of the Institutions Magazine of Chicago, for the remodelled Fior d'Italia restaurant in San Francisco. Gaidano won the same award in this contest last year for Piro's restaurant in San Francisco.

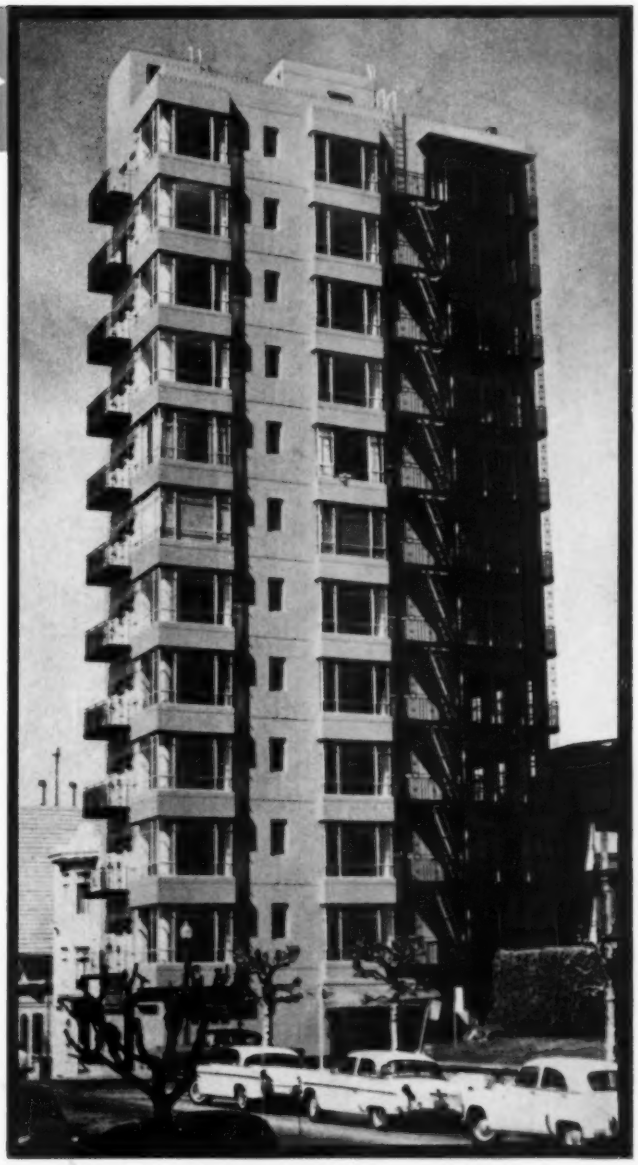
Alfred S. Nibecker, Jr., F.A.I.A., Los Angeles, who was architect and business manager for the Los Angeles City Board of Education until his recent retirement, has been made an honorary member by the Structural Engineers Association of Southern California. He began practice in the office of Mayberry and Parker, but left them in 1926 to become Board of Education architect. He has been business manager as well since 1936.

Western Architects Win NAHB Awards

Several western architectural firms recently received awards in the National Association of Home Builders competition for home design. They are A. Quincy Jones and Frederick Emmons, Los Angeles, Calif. (the fifth NAHB award won by them in the past four years); Palmer & Krisel, Los Angeles, two awards; Robert Jones of the same firm, who also received an award; and Seth M. Fulcher, Seattle, for a split level plan on Mercer Island.

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COMMUNITY APARTMENTS, Nob Hill, 1190 Sacramento Street, San Francisco. Note expansive glass areas and cantilever principle for window treatment.

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PROFESSIONAL NEWS
Elections, Appointments

The San Francisco Post of the Society of American Military Engineers recently elected J. G. Wright, structural engineer, as its president; Col. W. F. Cassidy, Army South Pacific Division Engineer, and Comdr. W. J. Valentine, of the Navy San Bruno office, are vice presidents. Wright succeeds Comdr. Paul Seufer, who was transferred to the Bureau of Yards and Docks in Washington, D. C.

Head of the Army Corps of Engineers huge construction program in the South Pacific Division is Col. William F. Cassidy, who recently replaced Col. Paul D. Berrigan as division engineer. The program averages $200,000,000 a year in an area covering 556,000 square miles in ten western states, Hawaii and other Pacific islands.

Frederick L. R. Confer, architect, has been selected as acting chairman of Associated Architects, a group of San Francisco Bay Area firms, with offices at 366 40th Street, Oakland, Calif.

Geroge L. Sedgwick, consulting structural engineer, has become a partner in the new firm of Ellison, Sedgwick and Associates, Consulting Structural Engineers, at 1045 Sansome Street, San Francisco, Calif.

Daniel, Mann, Johnson & Mendenhall, architects and engineers of Los Angeles, California, have announced the appointment of nine new associates. They are Walter W. Beeson, Alfred W. Day, Edward L. Frumhoff, Jack C. Handley, Marvin J. Kudroff, T. K. Kutay, Shuji Magota, A. H. Matusek and Robert J. Sully.

Berkeley, Calif., has appointed James A. Barnes, formerly of the Seattle Planning Commission, as director of planning succeeding Corwin Mocine, now planning director for Oakland, Calif.

Walter L. Dickey, chief civil and structural engineer, Bechtel Corporation, has been elected president of the Structural Engineers Association of Northern California. Henry J. Degenkolb, chief engineer with John J. Gould of San Francisco, is new vice president.

William T. Wheeler was recently elected president of the Structural Engineers Association of Southern California. R. W. Binder was elected vice president and Albin W. Johnson secy.-treas.

The office of Ernest J. Kump, architects and planning consultants of Palo Alto, Calif., has announced the addition to its staff of Kenneth Reid, architect and former *Pencil Points* editor, as consultant on public relations and research.

Paul Robinson Hunter was recently elected president of the Southern California chapter, American Institute of Architects. Stanley Gould is new vice president, John Alec Murray, secretary, and Graham Latta, treasurer. Directors will be Stewart Granger, newly elected for a three-year term, Cornelius M. Deasy, George Vernon Russell, and William Glenn Balch, immediate past president. Ulysses Floyd Rible was named as delegate-at-large to the California Council of Architects.

Philip S. Buckingham was recently elected president of the San Joaquin Chapter, A.I.A., with Allen Y. Lew as vice president, James J. Nargis as secretary, and Paul C. Shattuck, treasurer. William G. Hyberg, David H. Horn and Alastair Simpson are directors.

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says GEORGE BELL
Bell and Valdez
Seattle, Washington

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WASTE SPACE

Architecture is Environment

What is architecture? Legally, it is all the service that the architect offers, and performs, for his client. But *essentially*, what is it? What is it that makes architecture more than shelter, more than construction, more than technological virtuosity?

One way to tackle this question — which is a never-ending source of discussion — is to consider the purpose of architecture, or of its more basic component, design. The primary purpose is to bring order — but to what end? Isn't it for the creation of *environment?*

This fundamental concept of architecture was well brought to mind at a recent meeting of the Coast Valleys chapter, A.I.A., at Palo Alto, where a discussion of esthetics was on the program. Will Blessing, a chapter member, asked pointedly, "Why hasn't anybody said anything about architecture as environment"? He was right. It is because architecture is the creation of environment that the architect's job is so big. He must think in terms of more than shelter, more than construction; he *creates* when he thinks and achieves in terms of making an environment that answers all the needs of the job and goes beyond to make something that is a sensory experience.

What's That at the Other End of the Log?

Architects had better not ignore the experiment on which San Francisco State College is about to embark. Beginning next fall it will inaugurate the first open-circuit college-by-TV curriculum in the country, if not the world. Ninety freshmen and 90 sophomores will "attend classes" by watching TV at home; an equal number will attend classes on the campus as a control group. Financed by a grant of $125,000 from the Fund for the Advancement of Education, the experiment will enable the college to determine whether TV can help it solve a pressing problem: it has no room for its students. If the problem is bad now, it will be worse when the first "war babies" go to college in 1960; by 1970, one estimate says there will be 6,000,000 students in college. Educational TV may not be the answer — it is a far cry from the log with Mark Hopkins at one end and the student at the other — but if it should turn out to be the only solution to mass education, it is going to have a surprising impact on school architecture.

— E. K. T.

PROFESSIONAL NEWS

New Addresses, Firm Changes

Smith, Tepper & Sundberg, graphic and industrial design, have moved to 737 Beach Street, San Francisco, Calif.

J. Y. Long Co., engineering firm of Oakland, Calif., has moved to its own new building at Ninth Street between Oak and Madison.

The firm of Powers, Daly and De Rosa has moved to 6367 Atlantic Ave., Long Beach, Calif.

Campbell & Wong have moved to new offices at 737 Beach Street, San Francisco, Calif.

J. Robert Bence and George Stein, architects, have moved to 143 S. Center Street, Casper, Wyoming. Their mailing address remains P. O. Box 604, Casper.

The partnership of Buchter & Lillis, architects of Vallejo, has been dissolved and Dean F. Lillis has announced the opening of his own office for the general practice of architecture at 912 Tennessee Street, Vallejo, Calif.

J. H. Baxter Company, producer of pressure-treated wood products, has recently moved its main offices to the new Equitable Life Building at 120 Montgomery Street, San Francisco. The company has just announced merger of four of its associated companies and election of new officers for the company.

Richard Smart and William Clabaugh, architects, have formed a partnership with offices located at 1001 Yuba Street, Redding.

Dean F. Lillis and Tristan P. Smith have formed a partnership to practice architecture at 912 Tennessee Street, Vallejo, Calif.

Robert B. Marquis Associates has moved to new offices at 737 Beach Street, San Francisco, Calif.

John S. Bolles, architect, has moved to Pier 5, Second Floor, San Francisco, Calif.

Mario Ciampi, architect, announces that Allyn C. Martin, architect, has become associated with him. The firm name now is Mario J. Ciampi, architect, Allyn C. Martin, associate architect.

Edgar B. Hurt and Clyde F. Trudell announce formation of a partnership under the firm name of Hurt & Trudell, architects, with offices at 709 Mission Street, San Francisco, Calif.

Emery Kanarik, architect, has moved to 8303 Melrose Avenue, Los Angeles.



AMERVENT Installation: Healdsburg (Calif.) High School; E. B. Christensen, Superintendent; Falk & Booth, Architects; Dean & Hill, Engineers

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Courtesy Sunbeam Lighting Co

NEW PRODUCTS

New Switch Controls Light Intensity

Because the console board of the computers in the new plant for Ramor Woolridge Corporation in Los Angeles must be read in semi darkness but other operations in the room require high lighting intensity, a special switching device was installed in the room by Sunbeam Lighting Company. The device varies the intensity from the maximum of 130 ft candles to whatever low intensity minimum is necessary. Open type recessed fixtures are set in a suspended ceiling of corrugated aluminum acoustical panels. Eugene K. Choy is the architect.

Public Relations in Action

The Women's Architectural League of Portland, Oregon, in conjunction with the Portland Oregonian's Hostess House, recently sponsored a four-session forum with the theme "Let's Build a House." Sessions on selection of property and financing, the house itself, constructing the house, and final approval of the house and selection of furnishings — all stressing the part an architect plays in the process — were held during March, with architects, real estate and property experts, a contractor, a landscape gardener and an interior decorator participating in the discussions. Mrs. Joseph H. Rudd, Jr. was chairman of the planning committee. Exhibits at Hostess House were arranged to complement the discussions.

Public Office is not for Builders Exchange Members

Members or employees of California Builders Exchanges who are also public officials should henceforth resign either from the exchange or from public office, according to a recommendation recently sent to all exchanges by Hal Reynolds, executive vice president of the State Builders Exchange.

Basis for the recommendation was a recent ruling by California attorney-general Edmund G. Brown which invalidated contracts made between the city of Modesto, Calif., and members of the Valley Builders Exchange on the grounds that the exchange secretary was a member of the city council. Pending clarification of this ruling, Reynolds recommended steps be taken by exchanges to protect the contracts which other members of the association might have with public bodies.

The Modesto case ruling held up some $53,000 in local contracts.

Russell G. deLappe Memorial: Design for the Heart

The East Bay Chapter, A.I.A., is continuing its sponsorship of a design program — to produce effort-saving homes for cardiac patients — as a memorial to Russell Guerne deLappe, late architect of Oakland, Calif., who initiated the project before his death some months ago.

Student researchers at three architecture schools in California, working with architects of the chapter on this program, are compiling data as it becomes available on the needs of heart patients in home planning. The program, called the "Russell Guerne deLappe Memorial," will progress to home design for people with other physical handicaps besides heart ailments, as soon as the studies for the cardiac group are completed.

CALENDAR OF WESTERN EVENTS

• June 12–16: World Conference on Earthquake Engineering, University of California, Berkeley.

• June 13–July 12: Chrysler Art Collection, Palace of the Legion of Honor, Lincoln Park, San Francisco.

• June 14–24: Construction Industries Exposition and Home Show, Pan Pacific Auditorium, Los Angeles.

• June 16: "San Francisco Discovery": Photographs by Bay Area Photographers. M. H. DeYoung Memorial Museum, Golden Gate Park, San Francisco.

• June 18–August 31: Summer Session in Architecture and the Allied Arts, University of Oregon, Eugene.

• June 23–July 1: Sixth International Design Conference, Aspen, Colo.

• June 25–29: Summer meeting, Pacific General Section, American Institute of Electrical Engineers, San Francisco.

• October 10–14: California Council of Architects annual convention and California-Nevada-Hawaii Regional Conference, Yosemite National Park, Calif.

• October 11–13: Structural Engineers of California annual convention, Reno, Nevada.

• October 18–20: Western Mountain Region, A.I.A., annual convention, Salt Lake City, Utah.

WESTERN SECTION

INDEX TO ADVERTISING

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a — Architectural File (green)
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Look at the benefits and you'll see why! Air-conditioned-office managers report better work from less-fatigued employees. Air-conditioned-plant supervisors hail increased production at steadier output levels. Just as air-conditioned commercial establishments lure hot-weather customers, so air-conditioned mass-produced homes lure home-buyers . . . builders report no other single feature now makes such an effective selling impression at such a low cost!

Thanks to Fiberglas insulation and other Fiberglas materials, it's easy to build year-round "comfort-conditioning" into anything from a home to a factory—with an ease, effectiveness and economy never dreamed possible! Today, in 100 cities across the country, Owens-Corning is conducting tests that point up the intimate relationship between inexpensive "comfort-conditioning" and *adequate insulation* . . . tests designed to prove that average homes, when adequately insulated, can be heated and cooled all year round for *$120!*

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. . . up to $400 or more on the initial cost of equipment!

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Equal savings can be reflected in store, office, factory and public building construction where adequate amounts of insulation have been specified by the architect.

In addition to insulation, Fiberglas has developed other specialized products to meet the needs of air conditioning commercial and industrial structures. These materials—pictured on the following page—do *double* duty . . . helping assure cooler comfort in summer and warmer comfort in winter—with maximum economy all year round! These Fiberglas materials help make the promise of *low-cost "comfort-conditioning"* a reality!



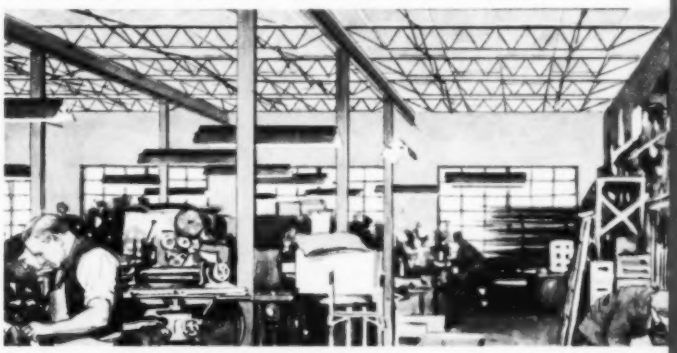
COMFORTABLE WORKING CONDITIONS and low cost, winter *and* summer, are practical when Fiberglas Insulation is specified in curtain wall construction for air-conditioned administrative buildings and offices. Whether insulated curtain walls are assembled in the field or prefabricated, they go up fast, reduce maintenance costs, slash fuel bills, "comfort-condition" office employees.



FIBERGLAS-INSULATED CURTAIN WALLS are also ideal for modern factory buildings and industrial plants where easy erection, low-cost thermal protection and maximum efficiency are especially important. Some types are up to *70% less expensive* than ordinary walls of equal "U" factor. The air-conditioned comfort they permit pays off in improved morale and increased production.



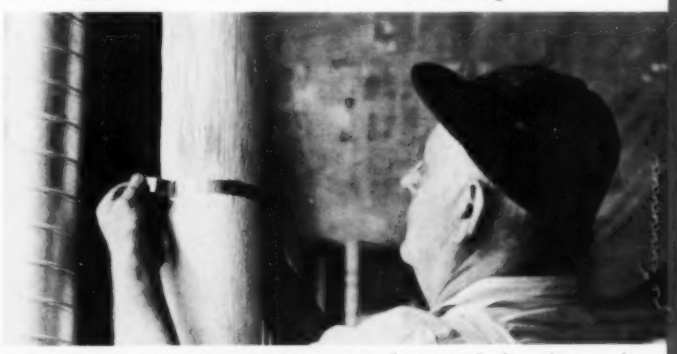
FIBERGLAS ROOF INSULATION—for flat or low-pitched roofs—delivers high-quality insulation at low cost. For instance, ¾" of Fiberglas Roof Insulation does the same insulating job as a *full inch* of most other materials. Lightweight, easy to cut and apply . . . saves time and labor costs. Assures greater fuel savings in winter, lower air-conditioning costs.



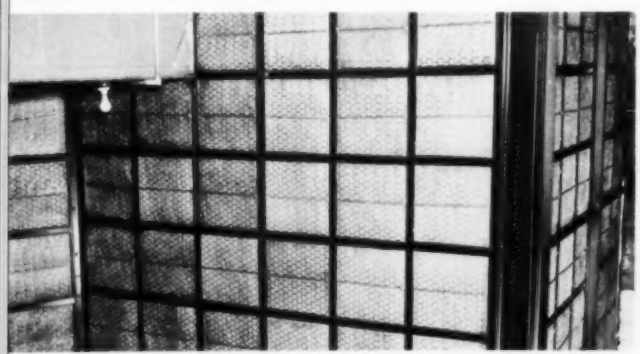
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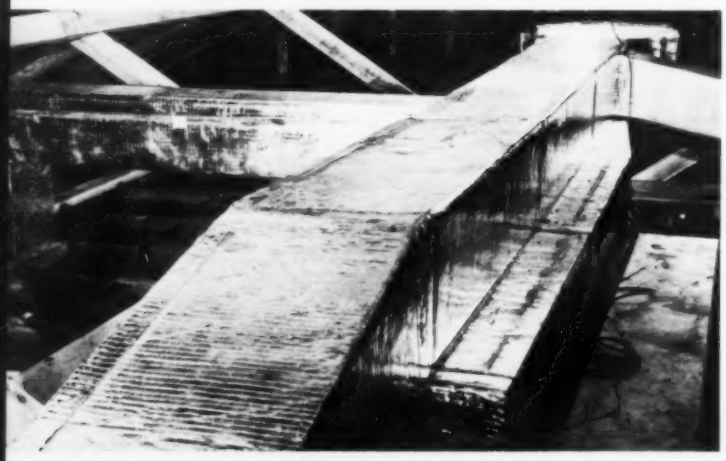
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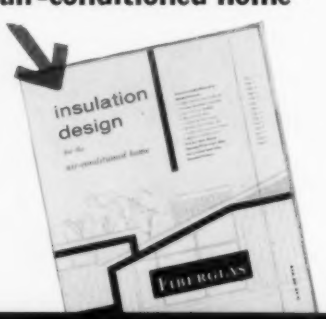
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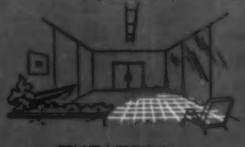
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NEW YORK

Period	Residential		Apts., Hotels Office Bldgs.	Commercial and Factory Bldgs.	
	Brick	Frame	Brick and Concr.	Brick and Concr.	Brick and Steel
1930	127.0	126.7	124.1	128.0	123.6
1935	93.8	91.3	104.7	108.5	105.5
1939	123.5	122.4	130.7	133.4	130.1
1946	181.8	182.4	177.2	179.0	174.8
1947	219.3	222.0	207.6	207.5	203.8
1948	250.1	251.6	239.4	242.2	235.6
1949	243.7	240.8	242.8	246.4	240.0
1950	256.2	254.5	249.5	251.5	248.0
1951	273.2	271.3	263.7	265.2	262.2
1952	278.2	274.8	271.9	274.9	271.8
1953	281.3	277.2	281.0	286.0	282.0
1954	285.0	278.2	293.0	300.6	295.4
1955	293.1	286.0	300.0	308.3	302.4
Jan. 1956	303.0	293.7	312.1	321.8	316.1
Feb. 1956	306.6	298.7	313.7	322.5	318.3
Mar. 1956	307.0	299.2	313.8	322.5	318.4
	% increase over 1939				
Mar. 1956	148.6	144.4	140.1	141.8	144.7

ATLANTA

Period	Residential		Apts., Hotels Office Bldgs.	Commercial and Factory Bldgs.	
	Brick	Frame	Brick and Concr.	Brick and Concr.	Brick and Steel
1930	82.1	80.9	84.5	86.1	83.6
1935	72.3	67.9	84.0	87.1	85.1
1939	86.3	83.1	95.1	97.4	94.7
1946	148.1	149.2	136.8	136.4	135.1
1947	180.4	184.0	158.1	157.1	158.0
1948	199.2	202.5	178.8	178.8	178.8
1949	189.3	189.9	180.6	180.8	177.5
1950	194.3	196.2	185.4	183.7	185.0
1951	212.8	214.6	204.2	202.8	205.0
1952	218.8	221.0	212.8	210.1	214.3
1953	223.3	224.6	221.3	221.8	223.0
1954	219.6	219.1	223.5	225.2	225.4
1955	225.3	225.1	229.0	231.5	231.8
Jan. 1956	231.2	230.3	235.9	239.0	237.8
Feb. 1956	233.8	232.4	236.9	240.1	239.1
Mar. 1956	234.2	232.6	237.1	240.3	239.4
	% increase over 1939				
Mar. 1956	171.4	179.9	149.3	146.7	152.8

ST. LOUIS

1930	108.9	108.3	112.4	115.3	111.3
1935	95.1	90.1	104.1	108.3	105.4
1939	110.2	107.0	118.7	119.8	119.0
1946	167.1	167.4	159.1	161.1	158.1
1947	202.4	203.8	183.9	184.2	184.0
1948	227.9	231.2	207.7	210.0	208.1
1949	221.4	220.7	212.8	215.7	213.6
1950	232.8	230.7	221.9	225.3	222.8
1951	252.0	248.3	238.5	240.9	239.0
1952	259.1	253.2	249.7	255.0	249.6
1953	263.4	256.4	259.0	267.6	259.2
1954	266.6	260.2	263.7	273.3	266.2
1955	273.3	266.5	272.2	281.3	276.5
Jan. 1956	285.1	276.3	285.5	297.0	289.4
Feb. 1956	286.9	278.6	285.8	297.2	289.8
Mar. 1956	288.3	280.4	286.2	297.6	290.9
	% increase over 1939				
Mar. 1956	161.6	162.1	141.1	148.4	144.5

SAN FRANCISCO

1930	90.8	86.8	100.4	104.9	100.4
1935	89.5	84.5	96.4	103.7	99.7
1939	105.6	99.3	117.4	121.9	116.5
1946	159.7	157.5	157.9	159.3	160.0
1947	193.1	191.6	183.7	186.8	186.9
1948	218.9	216.6	208.3	214.7	211.1
1949	213.0	207.1	214.0	219.8	216.1
1950	227.0	223.1	222.4	224.5	222.6
1951	245.2	240.4	239.6	243.1	243.1
1952	250.2	245.0	245.6	248.7	249.6
1953	255.2	257.2	256.6	261.6	259.7
1954	257.4	249.2	264.1	272.5	267.2
1955	268.0	259.6	275.0	284.4	279.6
Jan. 1956	272.7	264.3	281.0	289.7	286.3
Feb. 1956	274.8	267.0	281.3	289.9	286.8
Mar. 1956	274.8	267.0	281.8	290.3	288.9
	% increase over 1939				
Mar. 1956	160.2	168.9	140.0	138.1	148.0

Cost comparisons, as percentage differences for any particular type of construction, are possible between localities, or periods of time within the same city, by dividing the difference between the two index numbers by one of them; i.e.:

index for city A = 110
index for city B = 95

(both indexes must be for the same type of construction).

Then: costs in A are approximately 16 per cent higher than in B.

$$\frac{110-95}{95} = 0.158$$

Conversely: costs in B are approximately 14 per cent lower than in A.

$$\frac{110-95}{110} = 0.136$$

Cost comparisons cannot be made between different types of construction because the index numbers for each type relate to a different U. S. average for 1926–29.

Material prices and wage rates used in the current indexes make no allowance for payments in excess of published list prices, thus indexes reflect minimum costs and not necessarily actual costs.

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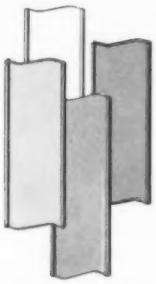
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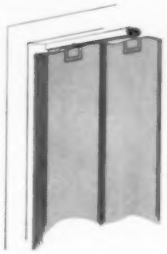
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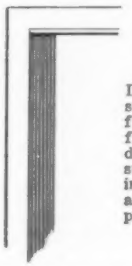
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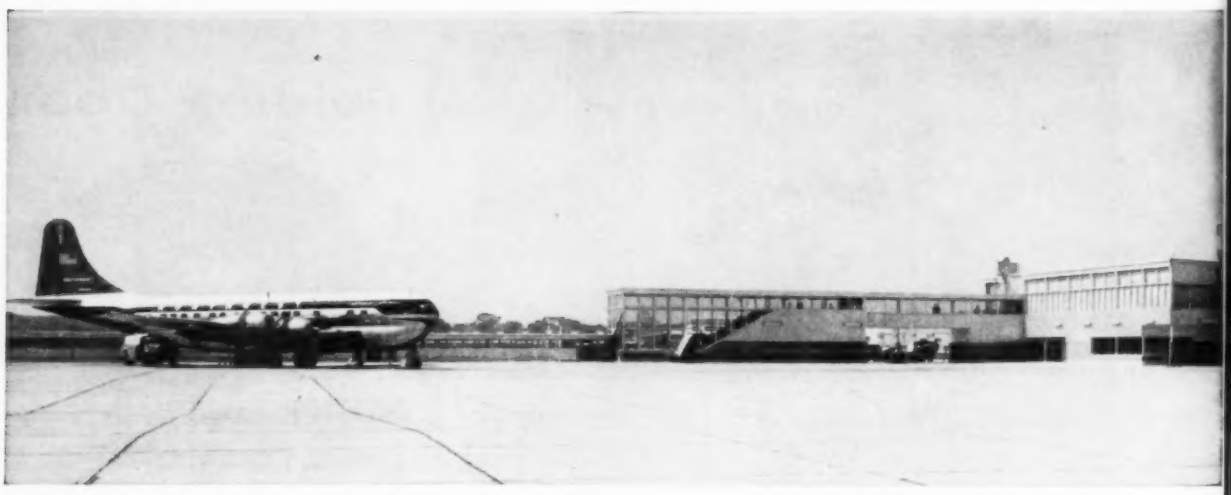
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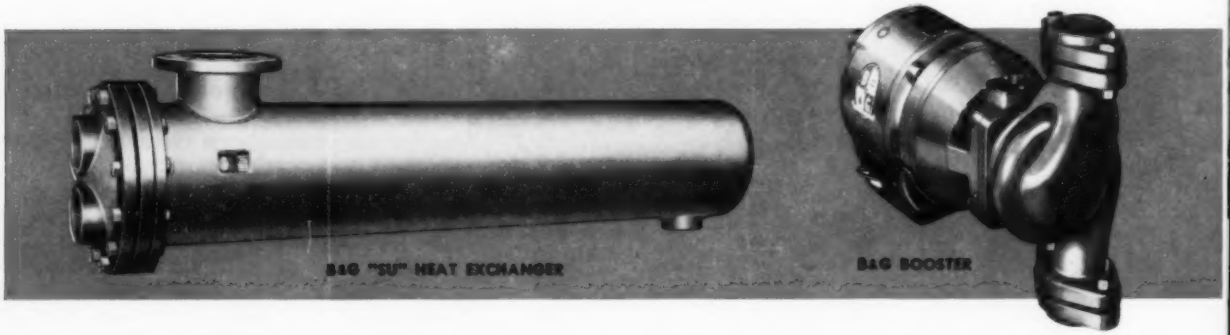
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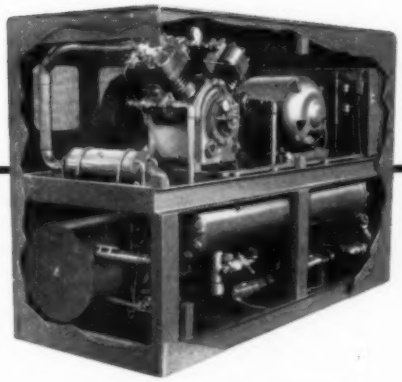


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LEWIS MUMFORD:
his contribution to American architecture

By FREDERICK GUTHEIM

From the Ground Up. By Lewis Mumford. Harvest Books (Harcourt, Brace and Co.) New York. 1956. 243 pp. $1.25

THE DEBT AMERICAN ARCHITECTURE OWES Lewis Mumford is only partially recorded in his essays from the *New Yorker*, here collected in this handy paper-backed volume But the least architects, and everyone interested in their art, can do is to read these wise, penetrating and often witty observations and see at first hand how well these essays of the moment stand the test of time.

The range is surprisingly small. Fresh Meadows, the UN Headquarters, Skidmore, and a review of Robert Mitchell's book* about sums it up. But in writing about these few topics, Mumford manages to range over the whole of architecture, and much that is better classified as housing, city planning and other fields. Here is a mind that seizes upon relationships — an organismic mind, as Alfred N. Whitehead put it — a mind that sees things as a biologist sees them, with an eye to growth and the influence of environment. But if the architect appreciates Mumford because he explains the conditions surrounding architecture, and concentrates attention on architectural objectives, the lay reader appreciates him because he proceeds from the known to the unknown. Life illuminates architecture. The only substantial objection to Mumford has come from the critics who protest that he seldom comes to grips with what they regard as the ultimate problems of architectural history and esthetics.

The typical method of analysis Mumford employs is description. It can be a devastating weapon, as he shows in his description of the entrance of the new Whitney Museum. It is most convincing when the personal experience in the presence of architectural masterpieces is recreated. But this is essentially a literary and philosophical technique, not the method of art criticism. And however soundly it is buttressed with history, as it is brilliantly strengthened, for example, in the essay on Frank Lloyd Wright's exhibition, it seldom leads to conclusive judgements. Here is a kind of criticism, in fact, less concerned with judgements than with understanding.

Most of all it is rooted in the healthy tradition of Ruskin and Morris, its moral indignations, its humanism, its suspicion of mechanization, its distrust of the large-scale corporate economy, and often its esthetic blindness and inconsistency. When Mumford finds Lever House good and the United Nations Headquarters bad, it is difficult to know whether the judgement is a moral or an esthetic one. The mechanization of the Manufacturers Trust Building, so extravagantly admired here, is certainly no less than the air-conditioned nightmare of the Whitney which is condemned. In the treatment of Public School No. 33, one is constantly plagued by the thought that the building would fare much worse if it housed a less socially desirable activity.

Of course architecture cannot be judged as sculpture. Mumford's appreciation of housing is enormously strengthened just because he considers a far wider range of human uses and interests that are recognized in design. And if his conclusions are relative, as I believe they are in the case of Fresh Meadows and Peter Cooper Village — which are remarkable only in terms of the peculiar conditions imposed by New York City — they are none the less valid.

These questions are posed because Mumford takes seriously his responsibilities as a critic. He is not writing to amuse people, or primarily to reach judgements. He clearly hopes to educate and to inform, and clearly he has succeeded.

If any architects have difficulty in understanding this, they would do well to read *Herman Melville*, or any of the volumes in the monumental series, *The Renewal of Man;* or even more simply, a recently published quintessence of Mumford's writings in a single volume. They would see there both the importance Mumford attaches to architecture — far greater than most architects dream of — as well as its limits.

The term journalism has become a kind of literary reproach. Yet this is architectural journalism far above the ordinary level. Lewis Mumford writes for the *New Yorker* because he respects its audience, its literary standards, and

(Continued on page 64)

* *Urban Traffic.* By Robert B. Mitchell and Chester Rapkin. Columbia University Press (New York) 1954. 226 pp. $5.00.

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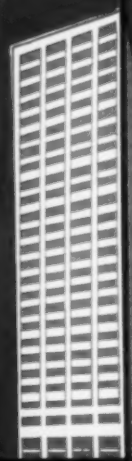
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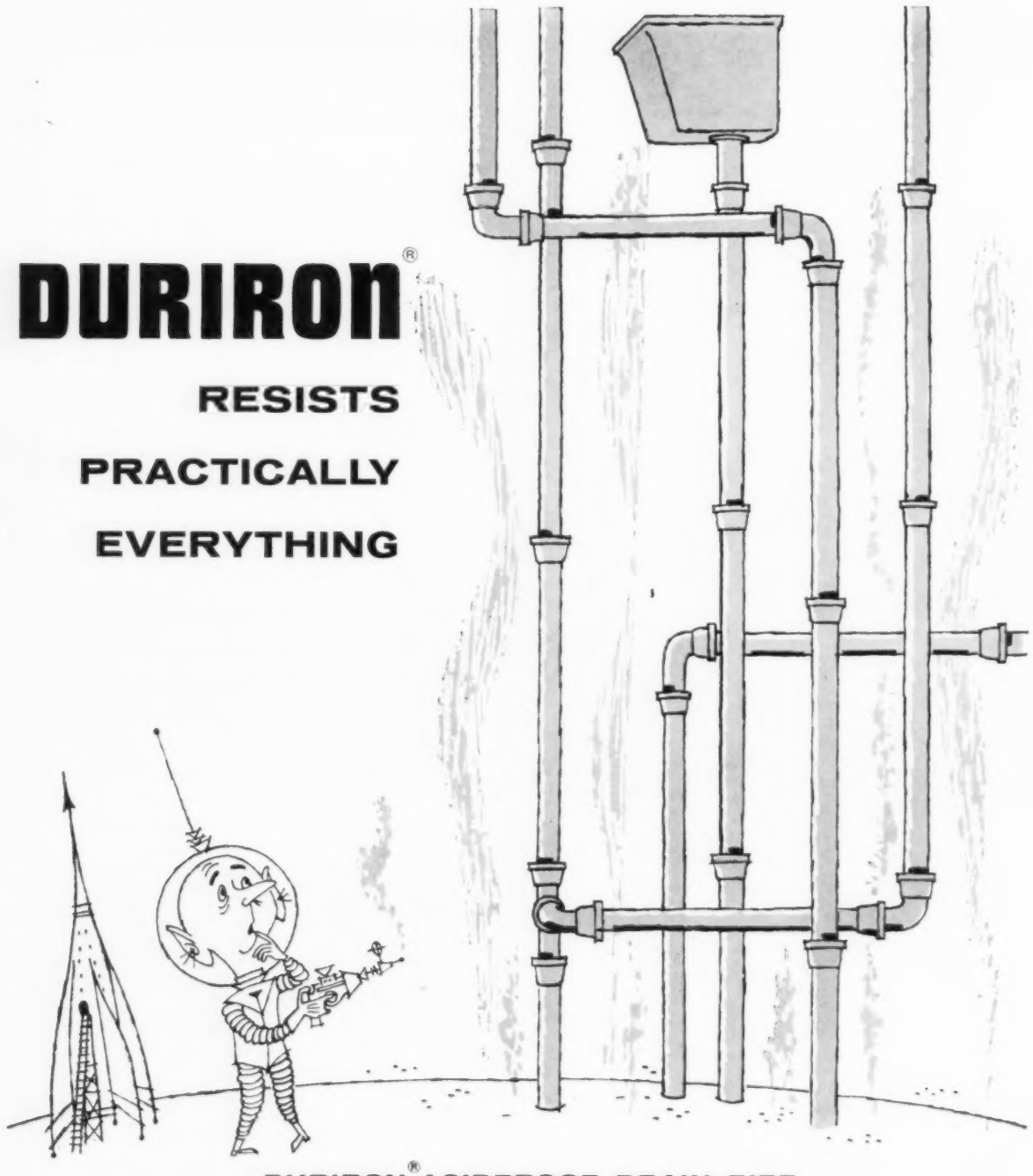
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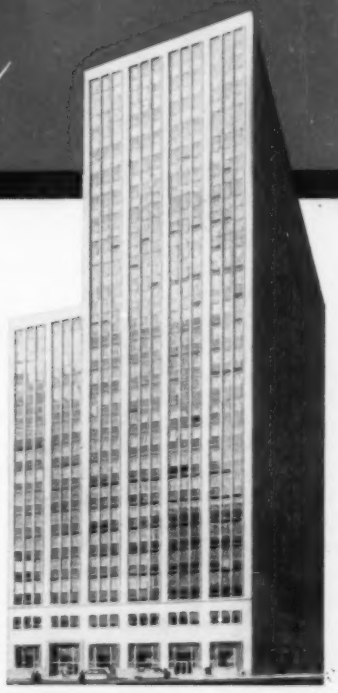
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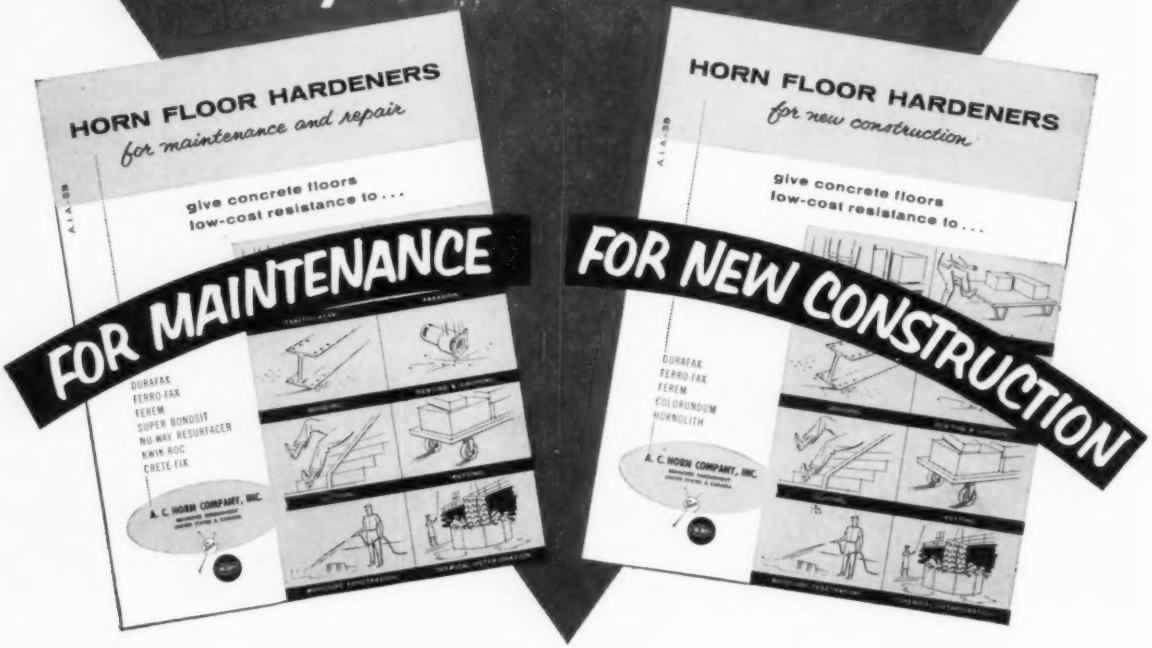


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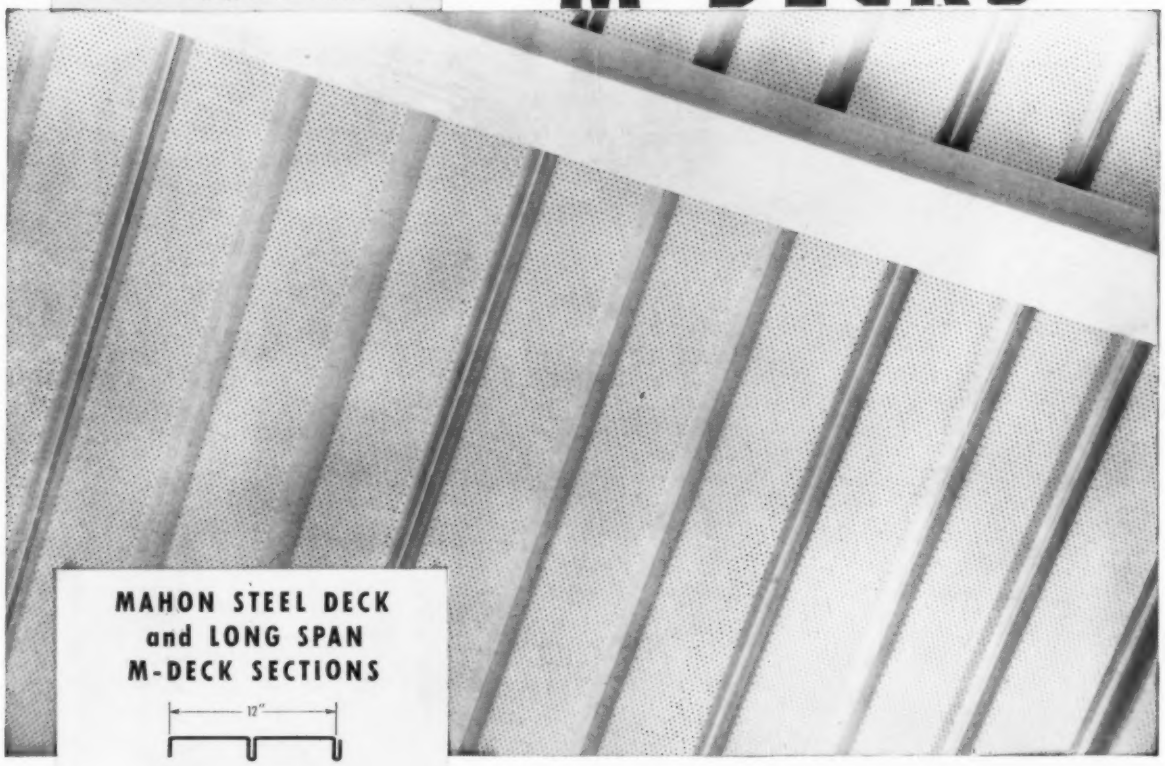
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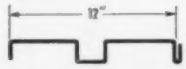
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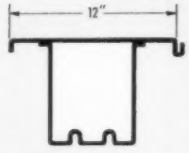


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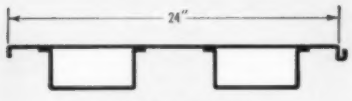
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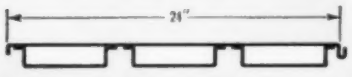
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REQUIRED READING

(Continued from page 58)

because he is still in love with New York. He writes about technical subjects in the English tradition of, say, Leonard Huxley who did not disdain to give talks to laborers institutes; or as a critic of art, music, books or the theater. It is this which sets him apart from those who write about architecture for architects or for art historians.

This mature and popular kind of writing, then, is the substantial and unique achievement which Lewis Mumford has won in the pages of our most literate periodical. If more people understand who architects are, what they do, and how to tell them apart from each other, it is because of this kind of writing. And it has been published now for a quarter-century, let it be noted, not merely since 1947 when the earliest piece in the present collection was published.

The subjects treated in this volume prompt a final reflection. The laws of libel affect architectural writing somewhat differently than they do criticisms of books or the theater. The courts appear to be more willing to recognize that architecture is affected by the public interest, but they recognize property rights in architecture to a greater extent than in other things which find themselves the object of public criticism. Comment on public buildings offers little difficulty. Buildings presented in a book or an exhibition likewise expose themselves to lawful criticism. Buildings involving public subsidy, or tax exemption, or the employment of public powers also become sufficiently colored by the public interest to be criticized. So are public institutions like museums and libraries, churches or railroad stations. Robert Moses is a fair target, as a public official. But beyond these general lines the criticism of architects and their works must still proceed with caution. One hopes that such a book as *From the Ground Up* will broaden the scope of architectural criticism by its effective demonstration of its value.

STRUCTURAL DESIGN

By William Hoffberg

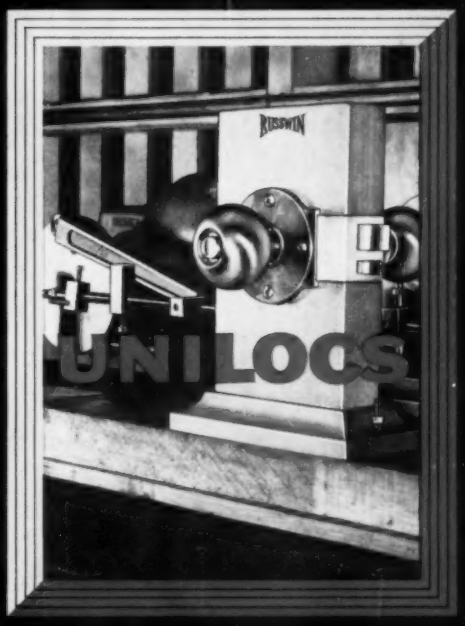
Applied Structural Design of Buildings. **By Thomas H. McKaig. F. W. Dodge (119 West 40th St., New York) 1956. 442 pp, illus. $12.50**

BOOKS ON STRUCTURAL DESIGN are based upon either theory or practice or combined theory and applied problems. In addition, there are the reference

(Continued on page 360)

Nine torture tests were devised to record and demonstrate the unusual strength of Russwin *Unilocs*. These tests include: (1) torque applied to the outside knob when the lock is locked; (2) a pull test to check the strength of knob fastenings; (3) the application of a load on both knobs when the lock is mounted; (4) a load applied to the latch radius in the direction that the strike would press on a latch-bound door.

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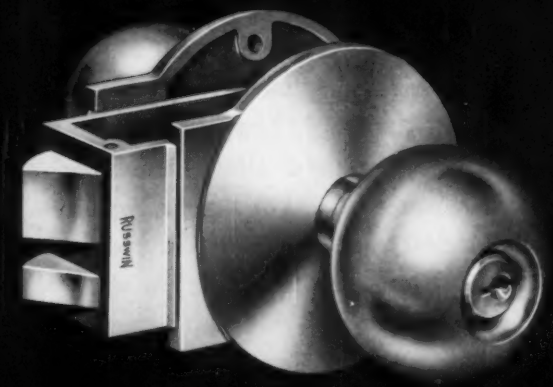


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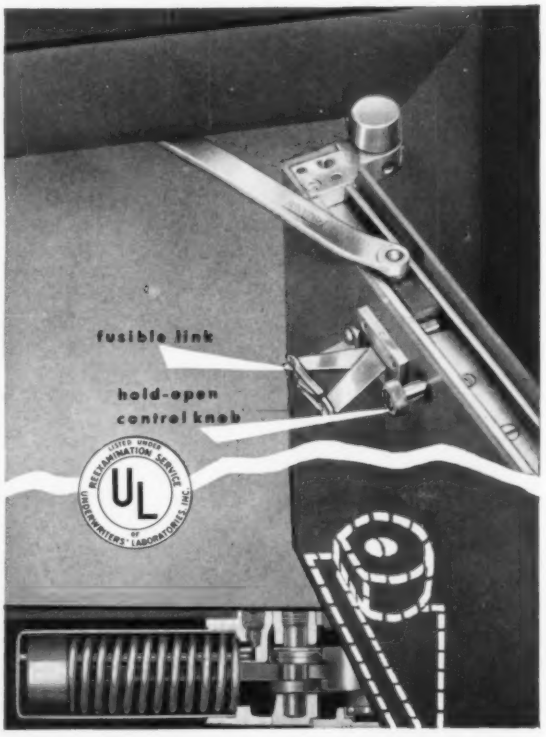
RIXSON Uni-checks, N.H.O.(no hold open), the smooth functioning door closers that are installed in the rigid floor . . . have the approval of the Underwriters' Laboratories for fire doors, when furnished with a special iron ball bearing top pivot.

RIXSON UNI-CHECKS with no. 36 fusible link hold-open arm

ideal for interior fire doors

The special U.L. approved RIXSON Uni-check can be supplied with a hold-open that also has Underwriters' Laboratories approval. The RIXSON no. 36 hold-open arm (illustrated) holds the door at 90°. In case of fire the fusible link releases at 160°F and the door closes automatically. A firm push will also close the door. The hold-open is easily engaged or disengaged by a turn of the control knob.

specify* RIXSON *throughout



write for details

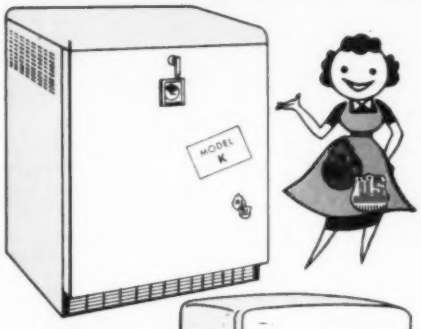
THE OSCAR C. RIXSON COMPANY

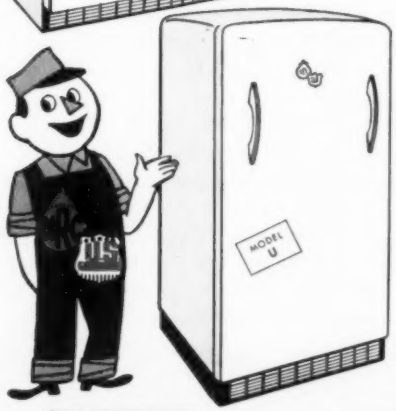
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National-U.S. Radiators
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National-U.S. Packets are Code Constructed and Rated Insurance Company Inspected



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HOME OFFICE BUILDING
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ARCHITECT: *Eggers and Higgins, Architect*
CONTRACTOR: *George A. Fuller Co.*



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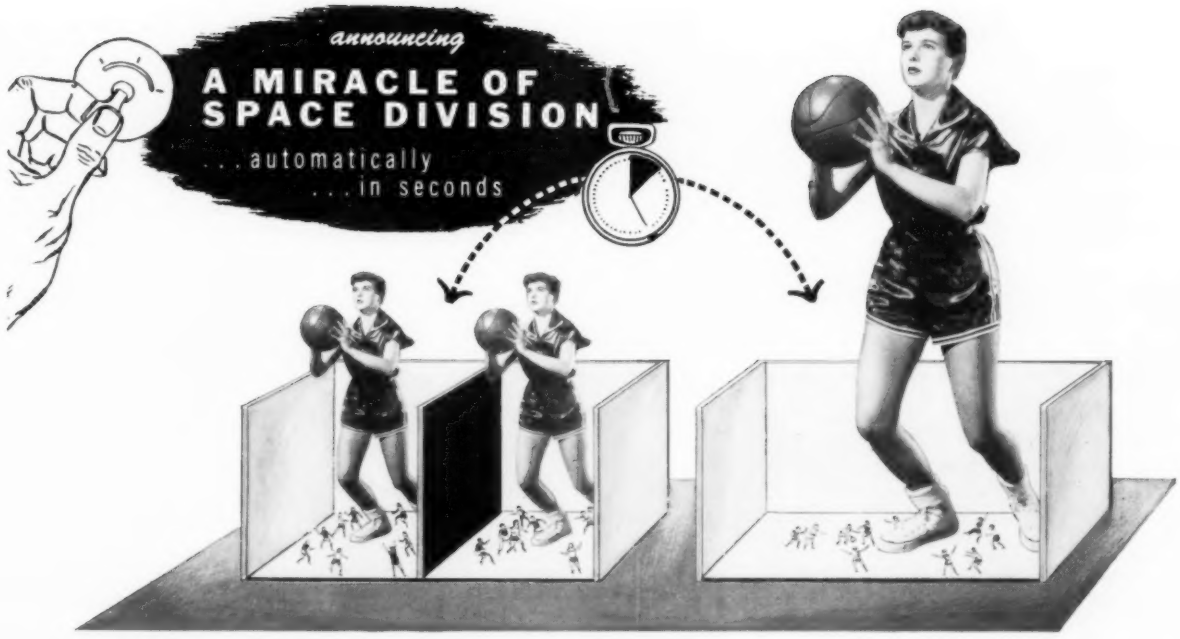
Tishman Buildings, *Los Angeles*
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The new Mutual Benefit Life building in Newark, N. J., is another outstanding example of Kawneer Metal Wall. Years of creative engineering and production in the field of architectural metals has culminated in a new service for architects . . . a new concept in metal wall construction. This building is an expression of Kawneer's ability to engineer a curtain wall to fit this architect's individual design. Kawneer accepts the complete responsibility for engineering, manufacturing and installation. Special weather-tightness features, adequate provision for expansion and contraction, and tested prefabrication methods assure the architect and contractor of complete client satisfaction. For further information write: Metal Wall Department, Kawneer, Niles, Michigan.

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POWERMASTER

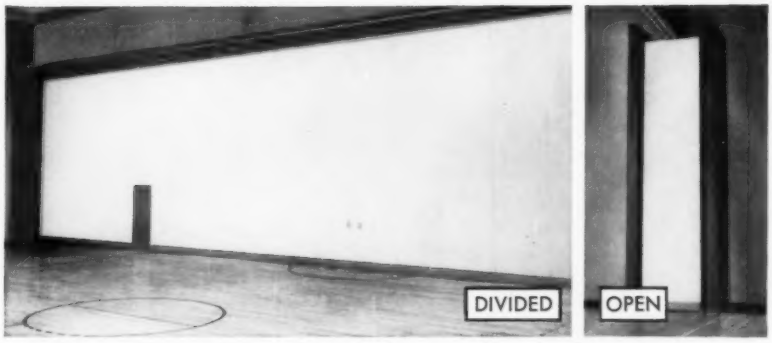
Safe, effortless partitioning for gyms, auditoriums!

Simply turn a key switch and "Powermaster" opens, closes, locks and unlocks smoothly, quietly . . . **automatically . . . in seconds!**

"Powermaster" converts any large indoor area—gyms, auditoriums, classrooms—into two separate, self-contained units. Conduct two games (instead of one!), two classes, two meetings simultaneously . . . **neither interferes with the other.**

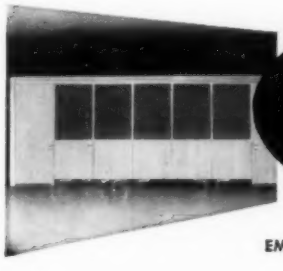
When fully extended, "Powermaster" Electric Folding Partitions approximate a solid wall capable of absorbing normal shock and wear. And resilient rubber strips automatically pressure-seal against the floor forming a light-proof, sound-resistant unit. No floor tracks or guides are necessary. Every installation is guaranteed, **in writing.**

Whether you're planning new construction or remodeling, we invite you to find out **how to perform a miracle of space division** with the EMCO "Powermaster." Mail coupon today for free catalog: no obligation, of course.



"POWERMASTER" FEATURES 6 MAJOR DESIGN IMPROVEMENTS!

1. **Easy-to-Reach CLUTCH RELEASE** . . . easily accessible without entering pocket.
2. **Auto-Action FLOOR SEAL** . . . double-acting, positive type. Self-adjusting to uneven floors.
3. **Smooth-Motion HYDRAULIC CYLINDER** . . . partitions open, close without bumps, jerks. Eliminates heavy spring jamb.
4. **Fully-Mortised DOOR HINGE** . . . extra-heavy, ball-bearing type. Presents smooth, finished appearance.
5. **Positive DOOR SEAL** . . . permanently bonded along partition door edges. Light-proof, sound-resistant.
6. **"Bridge-Built" DOORS** . . . one-piece steel truss construction. Prevents shrinking, warping, expanding.



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Mail me your new "Powermaster" Electric Folding Partition Catalog right away.

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WEIS

vitre-steel toilet compartments

... porcelain fired on steel at 1550° for a lifetime of beauty and utility

WE SEAL THE STEEL . . . seal it completely with porcelain enamel, inside and outside the double-wall partitions and doors. Outside surfaces are then re-fired in your choice of smart WEIS VITRE-STEEL colors.

Glass-hard VITRE-STEEL finishes withstand not only normal everyday usage, but the attacks of acids, cleaning compounds and even deliberate defacement by "restroom Rembrandts." Modern conveyorized continuous firing furnaces have eliminated the previous need for 16-gauge metal (used to minimize warpage when firing is done on burning pins or A-frames in box-type furnaces). Weis now uses 18-gauge metal to produce lighter, yet completely straight and stable VITRE-STEEL partitions and door panels.

In hospitals, schools, office buildings, factories . . . wherever you install them . . . WEIS VITRE-STEEL compartments are there to stay for the life of the building. Years of experience in producing vitreous porcelain enamel products guarantee that these compartments are the finest that modern machinery, quality materials and skilled craftsmen can produce.

WEIS VITRE-STEEL compartments are available in conventional *Floor-Braced* and *Hi-Stile* types as well as in the popular *Ceiling-Hung* type that leaves the floor completely free of obstructions for easier cleaning.

Write for further information.



Actual photograph of Weis Ceiling-Hung VITRE-STEEL toilet compartment installation.

WEIS
VITRE-STEEL
PORCELAIN ENAMEL

HENRY WEIS MANUFACTURING COMPANY, INC.
METAL COMPARTMENT DIVISION
ELKHART, INDIANA



Actual photograph of Weis Floor-Braced
VITRE-STEEL toilet compartment installation.

SPECIFICATIONS

All metal compartments for toilets and dressing rooms shall be WEIS VITRE-STEEL (vitreous porcelain enamel on steel in accordance with Porcelain Institute standards for architectural porcelain enamel), as manufactured by Henry Weis Manufacturing Company, Elkhart, Indiana. Panels, stiles and doors shall be flush construction.

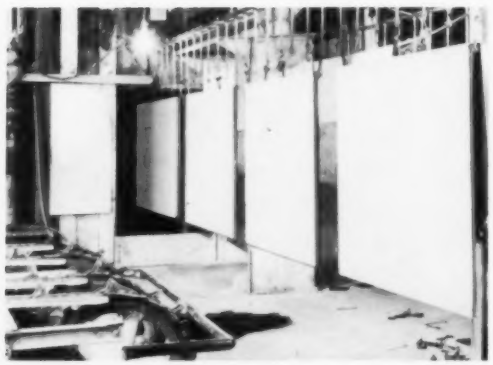
Partitions, stiles and doors shall be made of 18-gauge porcelain enameling iron. Strips for edge bindings shall be stainless steel. Cores shall be laminated corrugated fiber board approximately 1″ thick for partitions and doors and 1¼″ thick for stiles.

Partitions, doors and stiles shall be made of two face plates with formed edges, cemented under pressure to the core and joined by welding the abutting edges at suitable intervals. The edges shall be bound with die-drawn moldings interlocked under tension onto formed edges, mitered and welded at the corners and welds ground smooth. Partitions and doors shall finish 1″ thick; stiles shall finish 1¼″ thick.

All surfaces, concealed and exposed, shall receive a vitreous porcelain enamel ground coat. All exposed surfaces shall then be given a cover coat, in a color selected from the Weis color chart of 24 decorator colors.

Doors shall be hung on WEIS gravity hinges and the upper hinge shall be mounted in a recess in the edge of the door. Doors shall be fitted with slide bar latch, combination keeper and bumper and coat hook with rubber-tipped bumper, all to be brass, chromium plated. Latches and coat hooks shall be attached with theft-resistant screws.

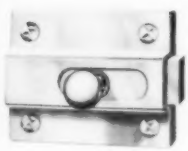
(Specify: Ceiling-Hung, Floor-Braced or Hi-Stile types.)



Modern conveyorized continuous firing furnace . . .
used to produce Weis VITRE-STEEL toilet compartments



Actual photograph of Weis Hi-Stile VITRE-STEEL
toilet compartment installation.



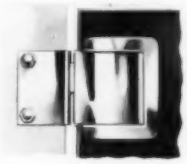
SLIDE BAR LATCH



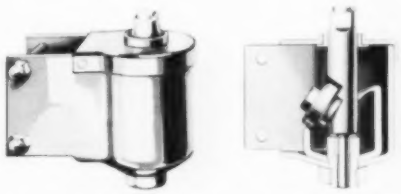
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AND BUMPER



COMBINATION COAT
HOOK AND BUMPER



CUT-OUT TYPE TOP
DOOR HINGE



UNIVERSAL BALL-BEARING GRAVITY TYPE BOTTOM
DOOR HINGE AND CUT-AWAY VIEW

How Change to High-Strength Bolting Speeded Erection of Steelwork

This 19-story structure in Rockefeller Center's community of impressive office buildings is an addition to the U. S. Rubber Building. It is one of New York's first projects to be erected with high-strength bolting.

It was originally intended to use riveting to join the structural members. After the first story was erected in this manner, it was decided to use high-strength bolting for the remainder of the job, with the result that erection of the 4190-ton frame proceeded more swiftly, at the same time providing stronger joints. Bethlehem High-Strength Bolts were used in connecting many of the structural members.

Bethlehem High-Strength Bolts are ideal fasteners for connecting structural steel. They can be installed quickly by a two-man crew, using a holding wrench and a calibrated impact wrench. What's more, the torque applied by the impact wrench provides joints which stay tight for all time.

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Bethlehem High-Strength Bolts are made of carbon steel, and are heat-treated by quenching and tempering, so as to meet the requirements of ASTM Specification A-325.

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Addition to U. S. Rubber Building, New York City. *Architects:* Harrison & Abramovitz; *General Contractor:* George A. Fuller Co.; *Structural Steel Contractor:* The Ingalls Iron Works Co.; *Structural Engineers:* Edwards & Hjorth.

BETHLEHEM STEEL

BETHLEHEM STEEL

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Sunray Building, Tulsa, Oklahoma. Architect: Hugh R. Humphreys; Consulting Engineers: Carnahan and Thompson; General Contractor: Manhattan Construction Co.; Equipment Contractor: Carl Moore Co.

D. C. Kennedy (left), special-service director of Sunray Mid-Continent Oil Co., and H. E. Kenslow, vice president of Anderson-Rooney Operating Co., which owns and operates Sunray Building.

In Tulsa, weather news is made indoors!

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If *your* plans include air conditioning, it will pay you to talk to an American Blower sales engineer. He's backed by a full line of equipment for any size or type of installation. Call our nearest branch, or write us direct.



In addition to equipment for complete central systems, American Blower offers packaged air conditioners for offices, stores, small industrial plants, similar applications.

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- **superior abrasion resistance!** Marvinol vinyl finish resists abrasion far better than paints, lacquers, varnishes, phenolic or alkyd finishes, will not chip, crack, or craze.
- **greater utility!** Marvibonded metal eliminates many costly finishing operations—can be drawn, crimped, sheared, embossed, and otherwise formed *without damage to coating or bond.*

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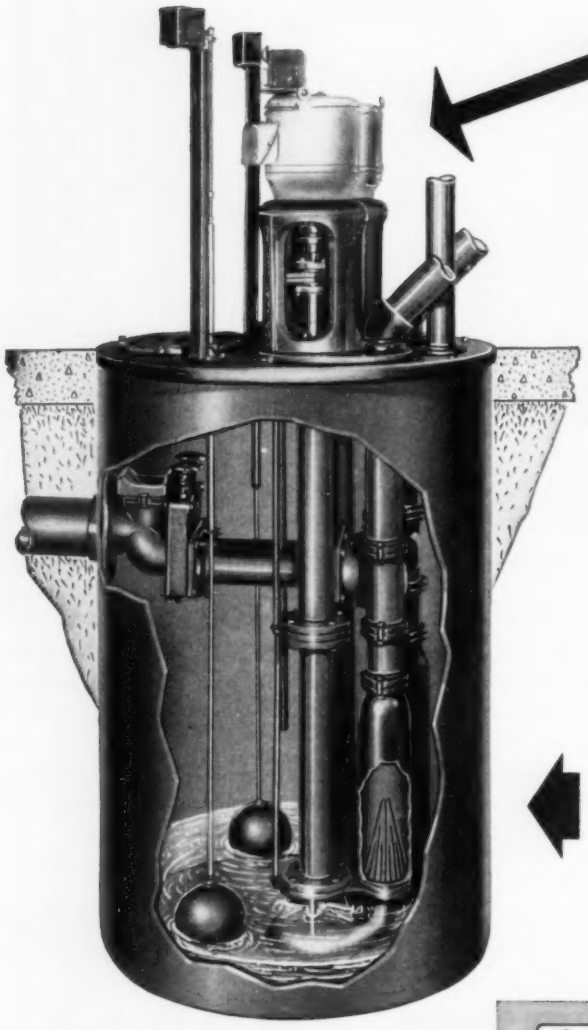
Naugatuck Chemical Division

Naugatuck, Connecticut

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Protect your client — and your reputation. Guarantee owner satisfaction by specifying "Flush Kleen" sewage ejectors wherever sewage must be pumped.

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"Flush Kleen" sewage ejectors are usually installed in duplex units and operate alternately. While one pump operates, sewage flows into the wet basin through the idle pump. A strainer ahead of the pump impeller retains all coarse sewage matter. (see cutaway)

When the idle pump starts, the coarse sewage matter in the strainer chamber is flushed into the discharge pipe with liquid sewage.

A special check valve prevents discharges back into the inlet line.

Engineering data showing how to determine sewage ejector capacities for any type or size of building are now available. Write to Dept. A for your copy today.

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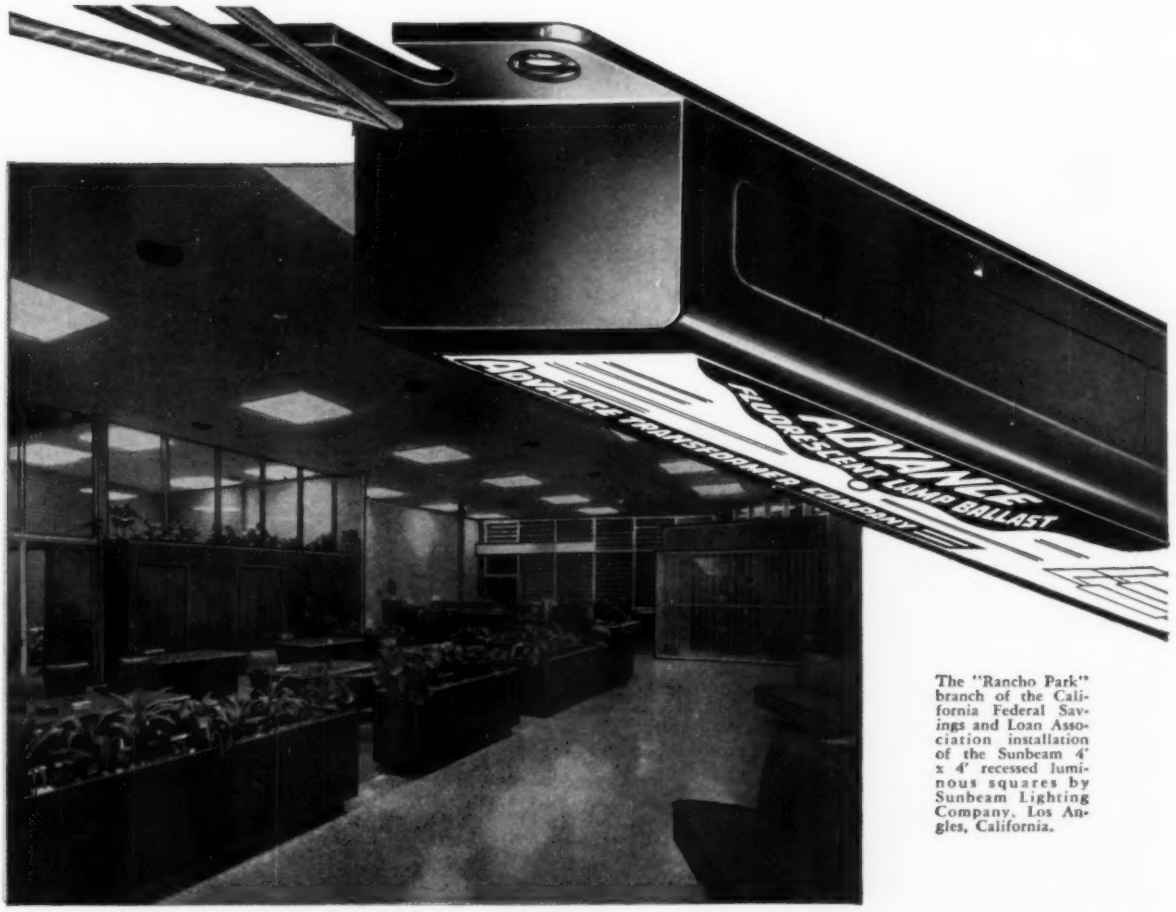
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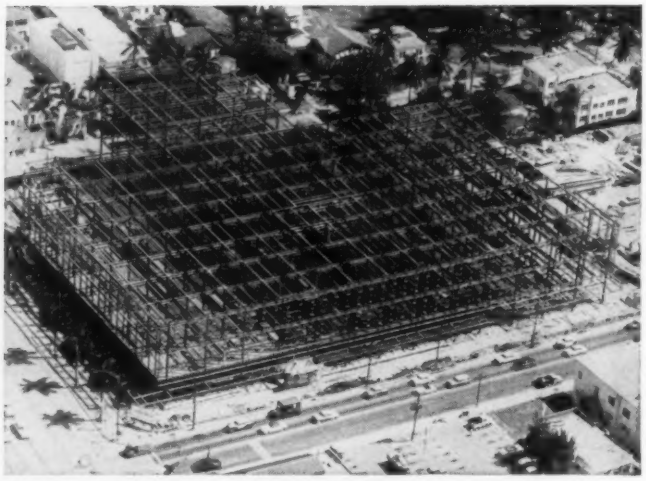
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of new Jordan Marsh Store

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"Quality-Approved" aluminum windows—either double-hung, casement, awning, projected or sliding—are rustproof, rotproof... never need painting or expensive maintenance... retain their trim, modern appearance for the life of the building... save money year after year.

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Pictured above: Springfield Sr. High School, Springfield, Pa. *Architect:* Harry G. Stewart. *Contractor:* Turner Construction Co.

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It's easy to make sure the drainage system for any building is as permanent as the basic structure you design:

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Lake Harriet Methodist Church, Minneapolis, Minn.: Architect, Loren B. Abbett, A.I.A.; Contractor, Kraus-Anderson, Inc.: both of Minneapolis, Minn.

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The air-entraining properties of Atlas Mortar Cement resist damage from freezing and thawing. That's why good-looking masonry made with Atlas Mortar Cement retains its handsome appearance for years.

BRICK, BLOCK AND STONE all look their best in a setting of Atlas Mortar Cement. Be sure to use it for your next project. Complies with all ASTM and Federal Specifications for masonry cement, which now include requirements for soundness (low expansion) in autoclave.

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UNITED STATES STEEL (USS) CORPORATION SUBSIDIARY

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Atlas® Mortar Cement

FOR BETTER MORTAR • FOR BETTER MASONRY

UNITED STATES STEEL HOUR—Televised alternate Wednesdays—
See your newspaper for time and station.

A continuing series of distinguished office buildings, schools, churches, hospitals and industrial structures using NORTON DOOR CLOSERS.



Surface type Norton Door Closers installed as original equipment in 1930 are still in regular service.

3300 NORTON DOOR CLOSERS IN USE SINCE 1930 AT LOS ANGELES COUNTY GENERAL HOSPITAL

A unique demonstration of dependability under the most demanding circumstances

Continuous service records ranging up to fifteen, twenty and even thirty years are no novelty for Norton Surface Type Door Closers like those in the Los Angeles County General Hospital and many other famous landmark buildings. The need for repairs or adjustments is rare indeed and replacements are almost unknown. Now, Norton "Inador" offers comparable ruggedness in a door closer specifically designed to combine effective concealment for trim modern beauty with the unfailing reliability, low maintenance and precision workmanship which is characteristic of all Norton Door Closers. For fully illustrated descriptions and engineering data on the entire Norton line, consult the current catalog. Write for a copy today if you don't already have one.

NORTON®

DOOR CLOSERS

Dept. AR-66, Berrien Springs, Mich.

NOW...for perfect harmony with clean lined modern design...

NORTON "INADOR"

The modern concealed door closer with built-in ruggedness



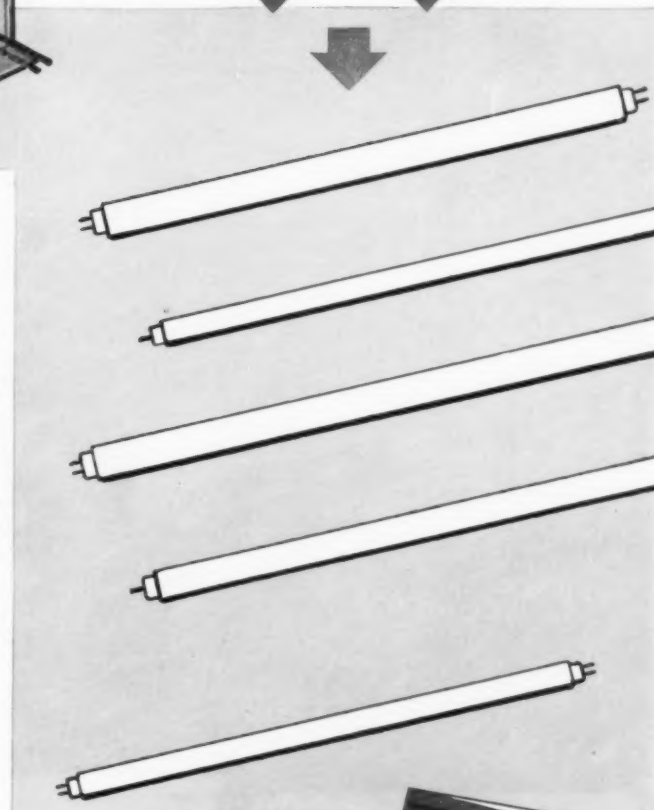
Available with (A) regular arm or (B) holder arm . . . 4 sizes to meet all requirements



CERTIFIED CBM BALLASTS

...give you more economical Fluorescent Lighting

because they are "Tailored to the Tube"



Every type and size of fluorescent tube has its own specific electrical requirements. Thus, to get ideal performance and lighting economy, it is essential that the ballasts provide precisely the electrical needs of the tubes they operate.

CERTIFIED CBM BALLASTS are "Tailored to the Tube." Built to exacting specifications, then tested and checked by ETL, an independent agency, CERTIFIED CBM BALLASTS are a dependable assurance of both satisfactory and economical fluorescent lighting.

Certified CBM Ballasts

PROVIDE:

LONG BALLAST LIFE
FULL LIGHT OUTPUT
LONG LAMP LIFE
TROUBLE-FREE OPERATION

all of which contribute to easier maintenance and fluorescent lighting economy.

Eight of the country's leading manufacturers of ballasts make CERTIFIED CBM BALLASTS. Participation in CBM is open to any manufacturer who wishes to qualify.

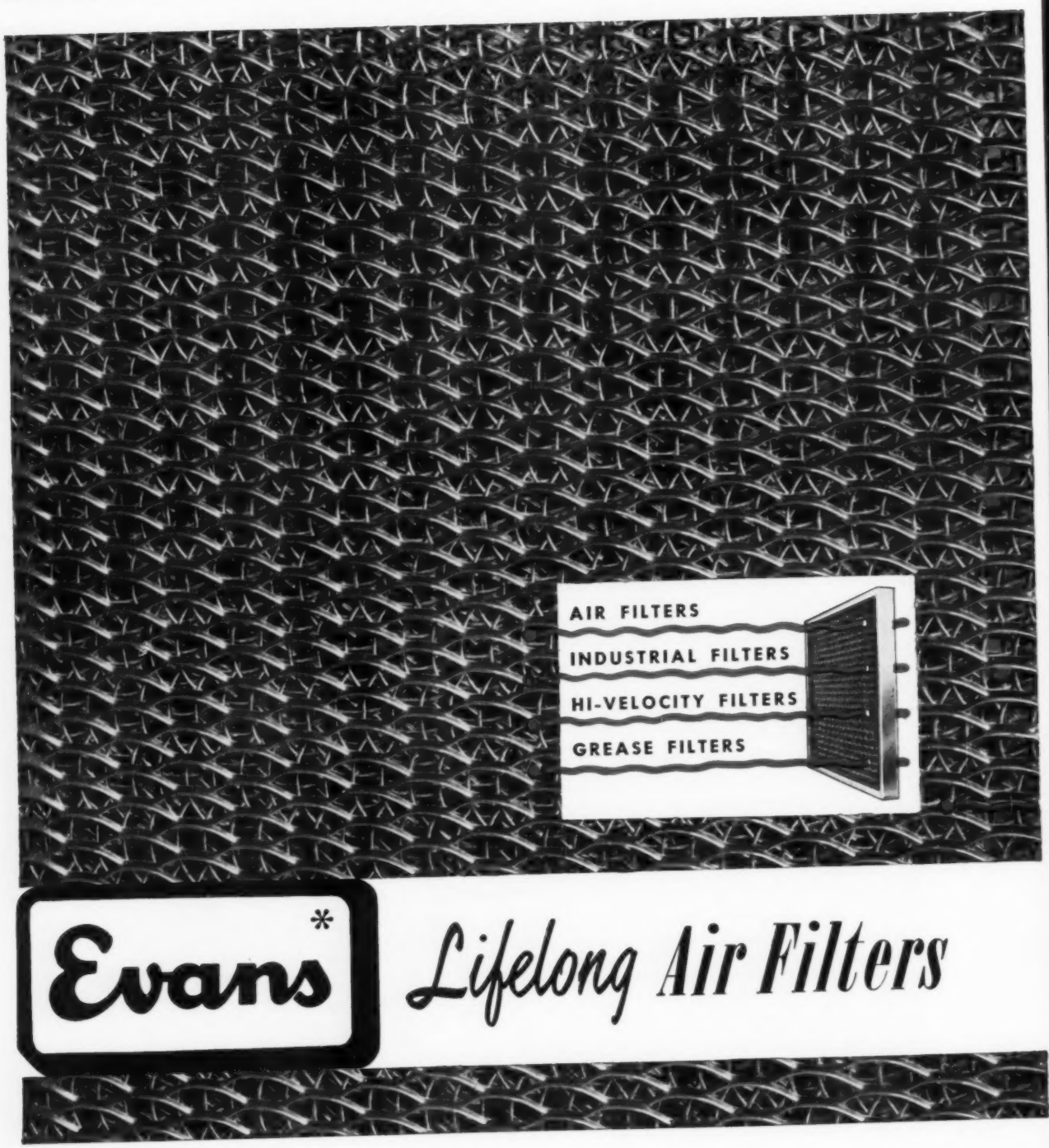
Send for free booklet, "Why It Pays to Use CERTIFIED CBM BALLASTS in Fluorescent Lighting Fixtures."



CERTIFIED BALLAST MANUFACTURERS
2116 KEITH BLDG., CLEVELAND 15, OHIO

THESE BIG CAPACITY FILTERS*

DEFINITELY LOWER



Evans*

Lifelong Air Filters

AIR CLEANING EXPENSE

Precision stamped pack, precision assembled, with larger openings on inlet side . . . progressing to smaller openings on outlet side delivers *CONSISTENT DOUBLE-LINT-HOLDING-CAPACITY.*

• • •

Special open-flow, low resistance design, super cleans the air. Precision angled openings force air into extremely high turbulence. Cause it to travel 3.5 times filter depth from inlet to outlet side. Rough talon-like edges grip and hold dirt. Let the pack absorb great quantities of lint without choking off the air stream. Both laboratory and field tests have conclusively proven:

• • •

EVANS FILTERS COLLECT AND HOLD MORE DUST AND LINT FROM THEIR INITIAL RESISTANCE TO .050″ wg., .075″ wg., 1.00″ wg., OR WHATEVER RESISTANCE DEEMED NECESSARY TO CLEAN FILTERS.

• • •

LIFETIME DESIGN PROVIDES LOWER COST PER CUBIC FOOT OF AIR HANDLED

One filter purchase . . . one set of filters last the life of your clients' air handling equipment. Eliminates call back expense.

• • •

ALL ALUMINUM DESIGN PROVIDES LOWER COST PER CUBIC FOOT OF AIR HANDLED

Every part of frame and medium precision stamped from aluminum (*not a foil*). Corrosion resistant. Rust proof. Light weight. Easy to handle. No dangerous edges. No sharp wires to tear or cut workers' clothes or hands.

MAINTAIN OFFICIALLY RATED DUST HOLDING CAPACITY IN THE FIELD

Evans filters are tested with a realistic dust (contains 18% lint). THE KIND OF DUST ACTUALLY FOUND UNDER TRUE OPERATING CONDITIONS. This has resulted in Evans exclusive *big capacity* design.

Remember, the initial cost for heating and cooling equipment is not the big controlling factor in the cost for clean air. *It is the operating cost that you must live with . . . that you must control.*

EVANS FILTERS SAVE 50% ON CLEAN AIR MAINTENANCE COSTS. They use no messy, dirty, high tension adhesive oil. Evans require but a few ounces of fluid. This fluid is double acting . . . both an adhesive and a detergent. Actually helps wash the filter when water is hosed on. Evans filters clean quickly. Require no dangerous caustics. No special room.

Whether you are specifying filters for air handling equipment in the design or operational stage, it will pay you to get facts on Evans filters. Write today for complete free information.

FREE

COMPLETE ENGINEERING DATA

- DUST LOAD CURVES
- EFFICIENCY RATINGS
- PRESSURE LOSS CURVES

MAIL THIS COUPON TODAY!

THE GEORGE EVANS CORPORATION • MOLINE, ILLINOIS

Gentlemen: I want to learn more about BIG CAPACITY EVANS AIR FILTERS and how they will *definitely lower my air cleaning expenses.*

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Company _____

Address _____

City _____ State _____



MODNAR is a new floor design development that makes special decorative effects possible!

Modnar* is plank-shaped—24" long by 4" wide. Comes in four beautiful decorator tones: Driftwood . . . Oak . . . Walnut . . . and Maple.

No matter where you specify this plank tile, you'll find these neutral shades blend in perfectly with your design plans. And it will give your client floors that perform with a minimum of fuss and bother.

All for the price of asphalt tile!

Floors that can "take" it, too. The colors, and veining, go completely through the tile. Modnar is formulated to meet the rigid requirements of Federal Specification SS-T-306b for Asphalt Tile.

Specify it throughout a building. In the basement or top floor, over wood sub-floors or concrete slabs.

Modnar is a Tile-Tex exclusive. Call in your Tile-Tex Contractor. He has the right tiles and the right adhesives for the job. He is listed in your classified telephone book. Or write us.



Modnar is quickly and economically installed. There is practically no waste, for less than full-size planks add to the random effect.

THE TILE-TEX DIVISION, THE FLINTKOTE COMPANY
1234 McKinley Avenue, Chicago Heights, Illinois

In the 11 Western states: Pioneer Division, The Flintkote Company, P. O. Box 2218, Terminal Annex, Los Angeles, Calif.

In Canada: The Flintkote Company of Canada, Ltd., 30th Street, Long Branch, Toronto.

*Reg. U. S. Pat. Off.

TILE-TEX... Colorful Floors of Lasting Beauty

Manufacturers of Asphalt, Vinyl-Asbestos, and Greaseproof Floor Tiles in Marbleized, Terrazzo-type, and Cork-like Patterns.



G. E. Outdoor Lighting Plant—Hendersonville, N.C.
J. E. Sirrine Co.—Engineers
H. L. Coble Construction Co.—Contractor

Brown & Grist Window Walls

Save today . . . Save tomorrow. That's what the architects planned for G.E.'s new Outdoor Lighting Plant in Hendersonville, N.C. That's why they specified Brown and Grist aluminum window walls.

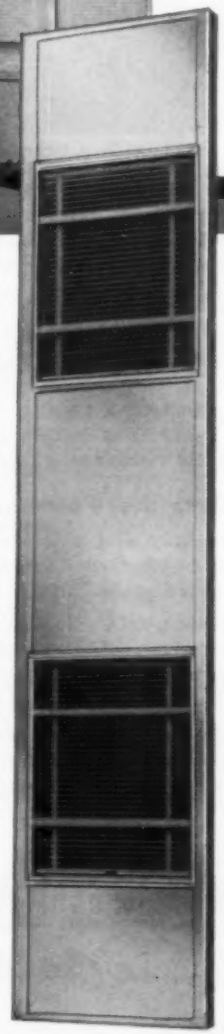
First, Brown and Grist window walls save on installation and construction. In the G.E. Outdoor Plant, two floors went up at a time, with the speed and ease of prefabs. Yet the cost was below that of old style walls.

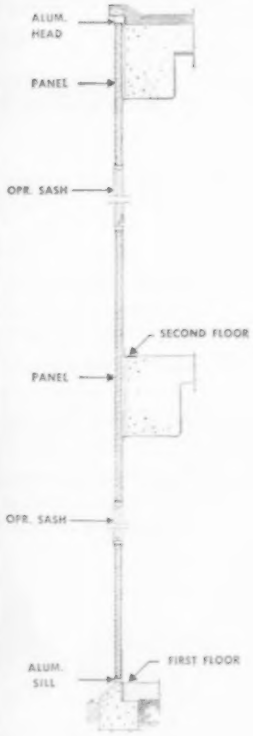
Long range savings are yours, too. This new type wall construction makes future growth simple and low cost. Whole wall-sections come down easily to make way for new construction. And panels can be reused in the enlarged building. Maintenance is next to nothing.

Unusually flexible in design and materials, Brown and Grist window walls add a new dimension to architecture. Panels vary to suit your needs—from 1/8" sheet asbestos to handsome porcelainized steel or aluminum.

All this with low cost and high quality. Get the full details plus free catalogs on these sturdy, light-weight window walls. Write or wire today. Brown and Grist engineers will work closely with you to meet your own specifications.

See Sweet's Vol. 17 a/Br and 3 a/Br





BROWN & GRIST, INC.

25 Tyler Avenue Warwick, Virginia Phone 8-1599

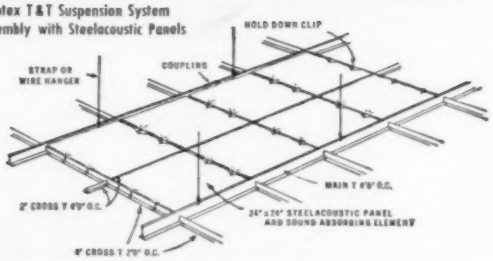


Interior of Gladstone Shoe Store, Grand Rapids, Michigan, with installation of new Acousti-Celotex Stria-Colored Steelacoustic Panels. *General Contractor:* C. D. Barnes Associates. *Acousti-Celotex Contractor:* Leggette-Michaels Co.

Corridor of Schuylerville School, Schuylerville, N. Y. showing Acousti-Celotex Steelacoustic* Panels on a T & T* suspension system. *Architect:* Waasdurp & Northrup, Rochester, N. Y. *General Contractor:* Christensen & Neilsen. *Acousti-Celotex Contractor:* Collum Acoustical Co., Inc.



Celotex T&T Suspension System Assembly with Steelacoustic Panels



Exclusive NEW Sound Conditioning Product Effective for a Wide Variety of Interiors:

ACOUSTI-CELOTEX STEELACOUSTIC PANELS

Here are two typical new installations utilizing *Acousti-Celotex Steelacoustic Panels:* In the Schuylerville School as an economical, incombustible suspended ceiling with high sound-absorption value; in the Gladstone Shoe Store as an attractive and unusual ceiling design bringing efficient sound conditioning to a merchandising area.

Note these outstanding Steelacoustic features:

Incombustible—In accordance with requirements of Federal Specification SS-A-118b, Class A Incombustible, as tested and reported by Acoustical Materials Assn.

High Sound Absorption—.70 noise reduction coefficient for less noise, better hearing. Linear openings in the face of each panel permit sound to pass through to a sound-absorbing element laminated to the back.

Easy Maintenance—Maximum washability of baked enamel finish on all exposed surfaces. Panels also may be repainted without loss of sound absorption.

Economy—Low-cost installation through efficient assembly of 24" x 24" Steelacoustic units, Celotex T&T exposed grid suspension system.

Attractive—Steel panels provide an attractive design for wide variety of commercial, industrial, and institutional areas. Available in white and stria-colored green, brown, and black.

Removable—Easy access to ducts, wiring, and other utilities above ceiling through easy removability of Steelacoustic panels.

*TRADE MARK

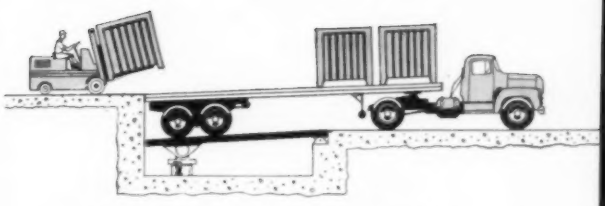
ACOUSTI-CELOTEX
REGISTERED U. S. PAT. OFF.
Sound Conditioning
TRADE MARK

FOR COMPLETE DETAILS on Acousti-Celotex Steelacoustic Panels and other acoustical products, write to The Celotex Corporation, Dept. B-66, 120 S. LaSalle St., Chicago 3, Illinois.

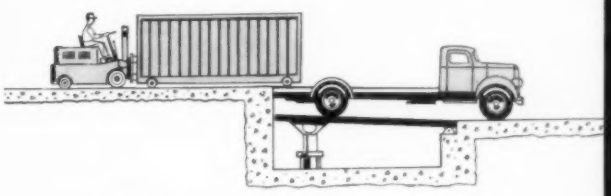
Products for Every Sound Conditioning Problem—The Celotex Corporation, 120 S. LaSalle St., Chicago 3, Illinois • **In Canada:** Dominion Sound Equipments, Ltd., Montreal, Quebec

Design loading docks

TO HANDLE THESE NEW SHIPPING METHODS



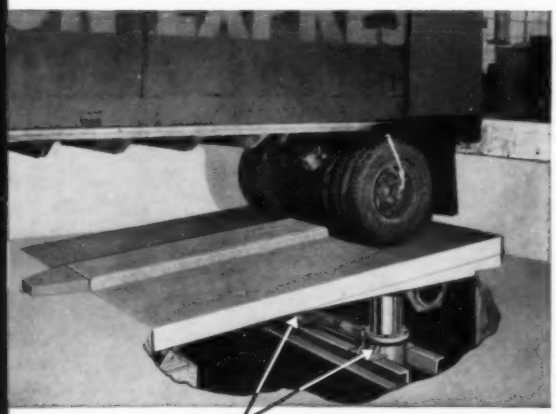
***"CONTAINERIZED" LOADS**—Consolidation of cargo in large containers which lock onto flat truck bed saves loading time and expense.*



***DEMOUNTABLE VANS** — For full truck-load shipments, these vans are loaded in warehouse and rolled onto truck bed when ready to go.*

ROTARY TRUCK LEVELER

equips docks to handle any highway carrier and any cargo handling method



***DUAL HYDRAULIC JACKS** raise or lower the truck or trailer bed to dock level. Capacity of the Rotary Truck Leveler is 40,000 lbs. Installation is easy and inexpensive at new or existing loading docks.*

This modern hydraulically-operated loading dock device speeds all conventional loading methods and equips docks for fast-developing new concepts in shipping.

The Rotary Truck Leveler raises or lowers the trailer to bring the bed level with the loading dock. "Containerized" shipments, pre-loaded in warehouse, can be moved easily by industrial trucks or roller conveyors onto flatbed trailers.

Maximum Speed and Safety—There is no sharp angle of incline between dock and trailer. Heavy containers, or pallet trucks loading conventional highway carriers, move swiftly and safely over a nearly level plane. Labor costs are reduced substantially.

The Rotary Truck Leveler saves space, too. It is installed in the pavement in front of the loading dock, leaving dock platform free of obstructions. Operation is by economical, dependable Rotary Oildraulic electric power unit, located wherever convenient.

Planning Assistance—A nation-wide organization sells and installs the Rotary Truck Leveler. These specialists in hydraulic lifting devices can assist you on plans and specifications. Mail coupon for complete data.

SEE OUR CATALOG IN SWEET'S FILES

ROTARY TRUCK LEVELER

Manufactured by
ROTARY LIFT CO., MEMPHIS 2, TENN.
Specialists in oil-hydraulic lifting devices

Mail for complete description and architect's specifications

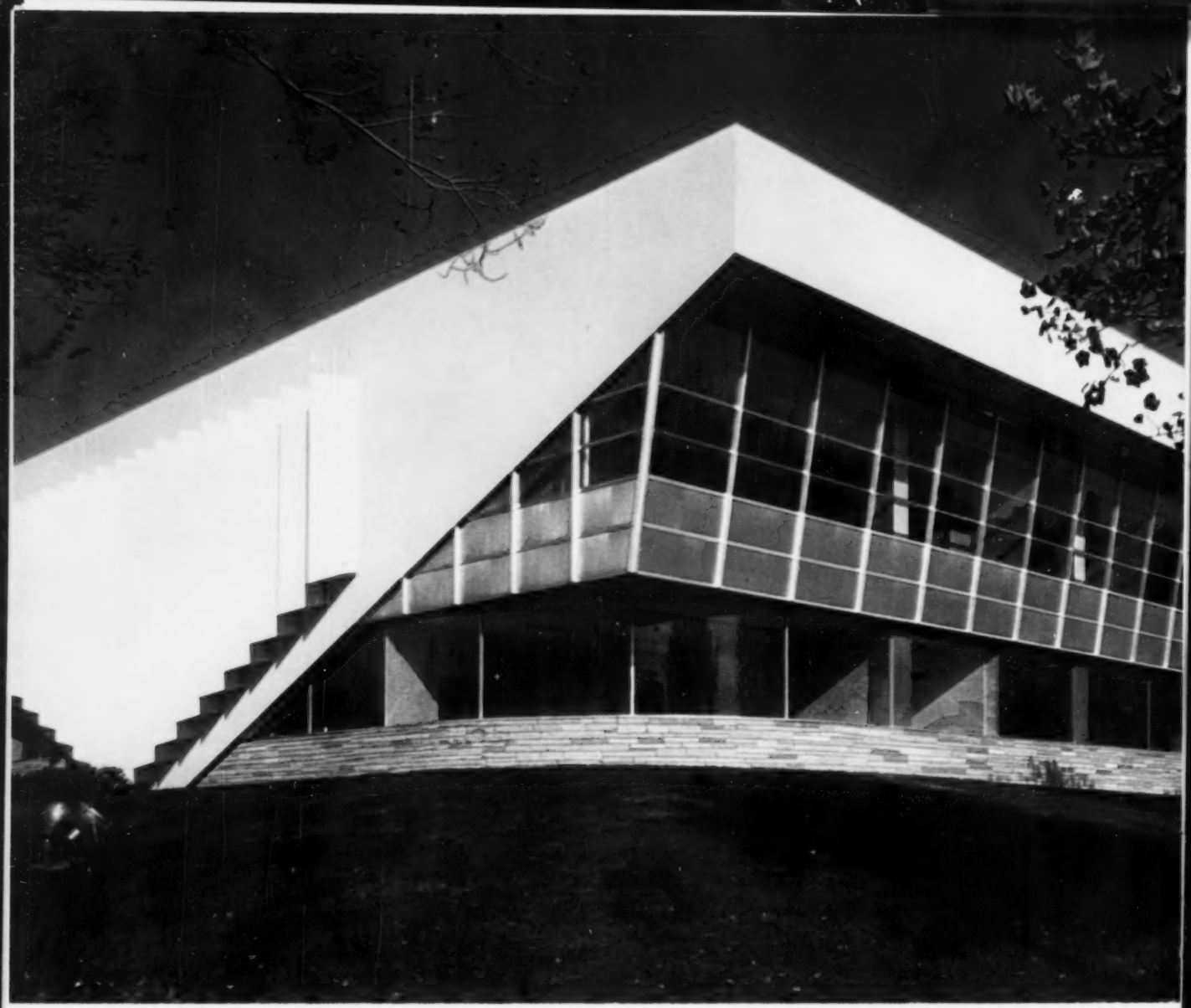
Rotary®

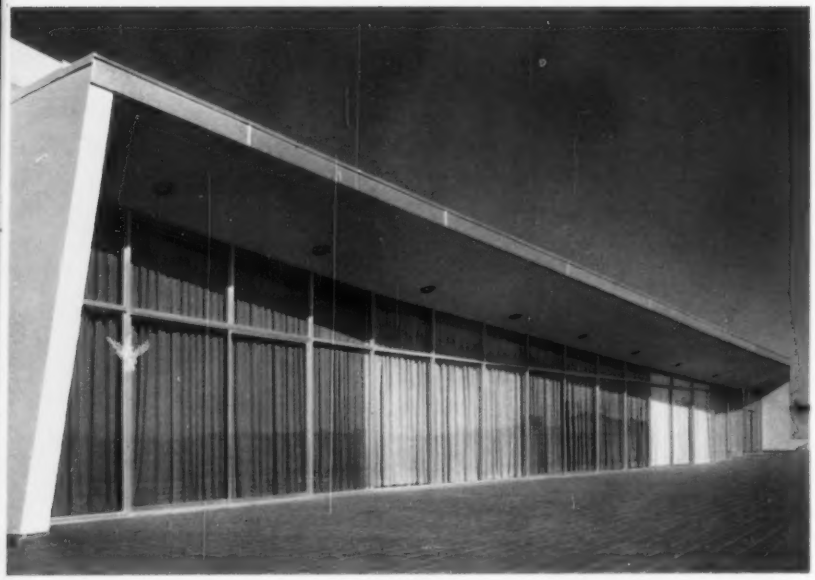
ROTARY LIFT CO.
1139 KENTUCKY,
MEMPHIS 2, TENN.

Please send new catalog on Rotary Truck Leveler to:

Name_____

Address_____





Third floor executive offices.



From inside looking out. Angled windows improve visibility.

USS STEELS

USS





Close-up shows Stainless Steel panels, column covers, doors and frames.

Old financial company gets bright new building trimmed with Stainless Steel

THIS NEW BUILDING should convert the few holdouts who believe that all financial institutions have 30-foot ceilings, fluted marble walls and huge stone lions guarding the doorway.

It's the new home of the American Investment Company in Clayton, Missouri. A bright facing of polished Stainless Steel repeats the strong, horizontal roof line and offers a subtle contrast to the large areas of glass and concrete.

Panels are made from type 302 Stainless Steel with a rigid backing. An air space was left between the spandrels and the concrete wall. Angle stops were used on the mullions, so the panels could be easily inserted in the spaces and held in place by glazing beads.

Newspapers in the area have run out of adjectives describing the new building. Remarks range from "ultra-modern" to "the most unusual office building in the midwest."

Stainless Steel has thoroughly proved itself—for curtain walls, spandrels, mullions and trim. Installation is rapid. Maintenance costs are insignificant. Long life is assured. And the finished appearance can be matched by no other material. For more information, write to United States Steel Corporation, Room 5265, 525 William Penn Place, Pittsburgh 30, Pa.

Architect: JOHN A. CAMPBELL, ST. LOUIS, MISSOURI
Designer: WENCELAO SARMIENTO, ST. LOUIS, MISSOURI
Builder: BANK BUILDING AND EQUIPMENT CORPORATION OF AMERICA
Stainless Steel Panels Fabricated by: MODERN METALS COMPANY, ST. LOUIS, MISSOURI
Stainless Steel Door Frames: SCHACHT STEEL CONSTRUCTION, INC., NEW YORK, N. Y.

FOR ARCHITECTURAL DESIGN
USS STAINLESS STEEL USS VITRENAMEL

UNITED STATES STEEL



HEARD EVERYWHERE

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LOWELL STL "ST. LOUIS" BAFFLES



Proved Performance . . . Ultra-Modern Styling

Unequalled in performance . . . unsurpassed for styling—that's why Lowell STL "St. Louis" Baffles are the overwhelming choice of architects and acoustic engineers. Where quality counts . . . rely on Lowell.

Lowell STL "St. Louis" baffles meet all requirements for **LOW LEVEL SOUND DISTRIBUTION** systems. Full 360° "ear level" sound dispersion assured by "floating" conical diffuser. Diffuser is mounted on soft rubber grommets to prevent metallic resonance. Mounts flush for low-ceiling areas. Baffles made of 18-gauge aluminum, with buffed satin finish coated with clear lacquer. STL baffles can be painted to match any decor. Models for 6" to 15" speakers.

see our catalog in S or write for copy

World-wide representation

LOWELL . . . the **ONE** source for immediate delivery of more than 100 models of wall and ceiling baffles, protective enclosures, grilles, mounting accessories and intercom equipment.

Lowell MANUFACTURING CO.

3030 Laclede Station Road, St. Louis 17, Missouri

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WRITE FOR COMPLETE SPECIFICATIONS

Medart

telescopic gym seats*

better gymnasiums deserve better seating

MORE SAFETY—Four double *vertical* uprights per row put the spectator load directly on the floor, not the casters or walls.

MORE STRENGTH—Self-supporting, free-standing steel understructure does not depend on wood members for strength.

MORE ROOM—22″ or 24″ row depths, plus under-seat clearance provides more toe, heel and leg room.

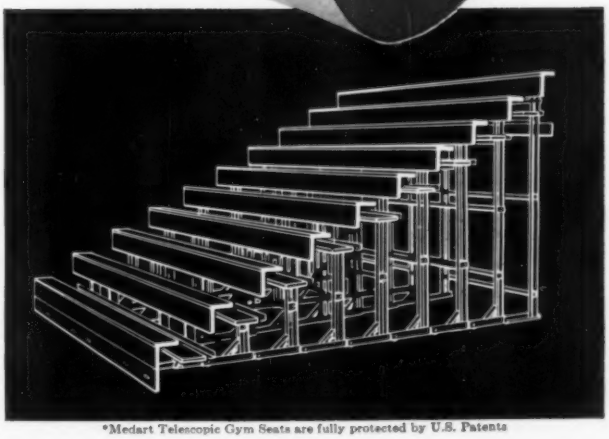
MORE VISIBILITY—10½″ or 11½″ row rise makes seeing easier.

LESS EFFORT—Free-floating, interlocked roller housings and supports under seats make Medart Seats easiest of all to open and close.

Write for NEW catalog

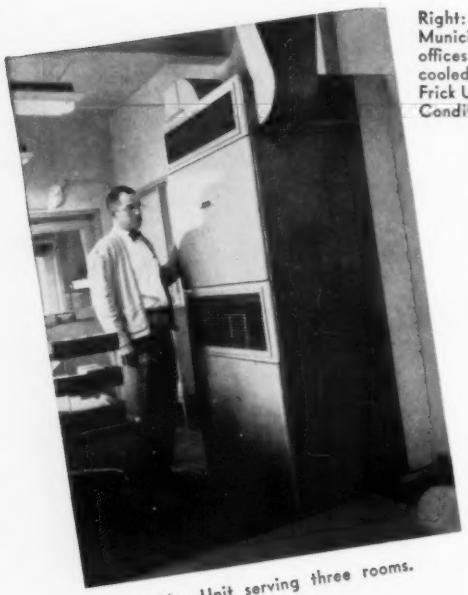
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SPECIFY the best, then INSIST on it!



FRED MEDART PRODUCTS CO., INC., 3540 DEKALB, ST. LOUIS 18, MO.

*Medart Telescopic Gym Seats are fully protected by U.S. Patents



5-Hp. Unit serving three rooms.

Right: Municipal offices cooled with Frick Unit Conditioners



TRADE FRICK MARK®

Air Conditioning—

Packaged Units or Central Systems

From a 3-hp. unit to a plant requiring thousands of tons of refrigeration is a long step, but they're both included in Frick-engineered air conditioning.

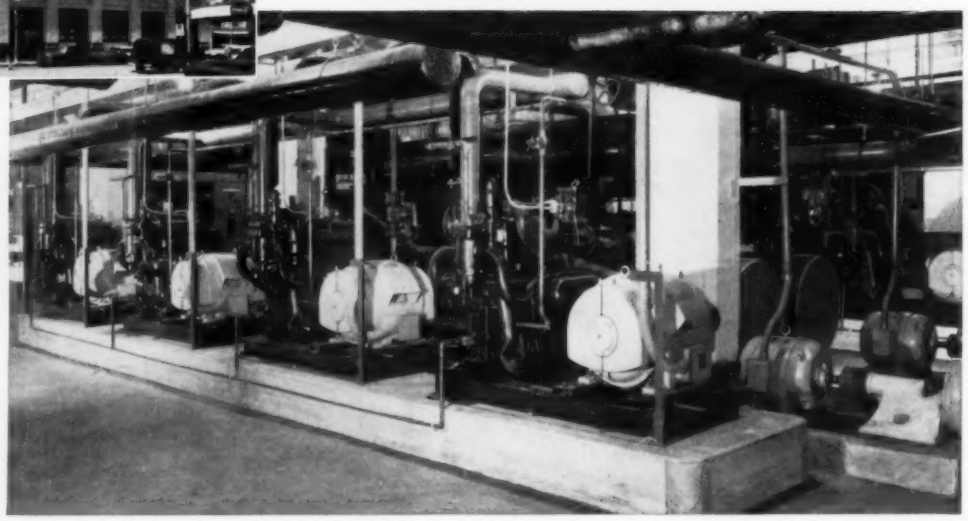
Built into Frick systems are 50 years' experience in air conditioning, nearly 75 in refrigeration, and over 100 in engineering. Nowhere else can you get this unique combination of experience and complete service. Ask for estimates today: write

DEPENDABLE REFRIGERATION SINCE 1882

FRICK CO.

WAYNESBORO, PENNA. U.S.A.





The two 11-story buildings of the American National Insurance Co., at Galveston, are air conditioned by the multiplicity of 75-hp. "ECLIPSE" compressors shown at right. Thousands of fine buildings are Frick-equipped.

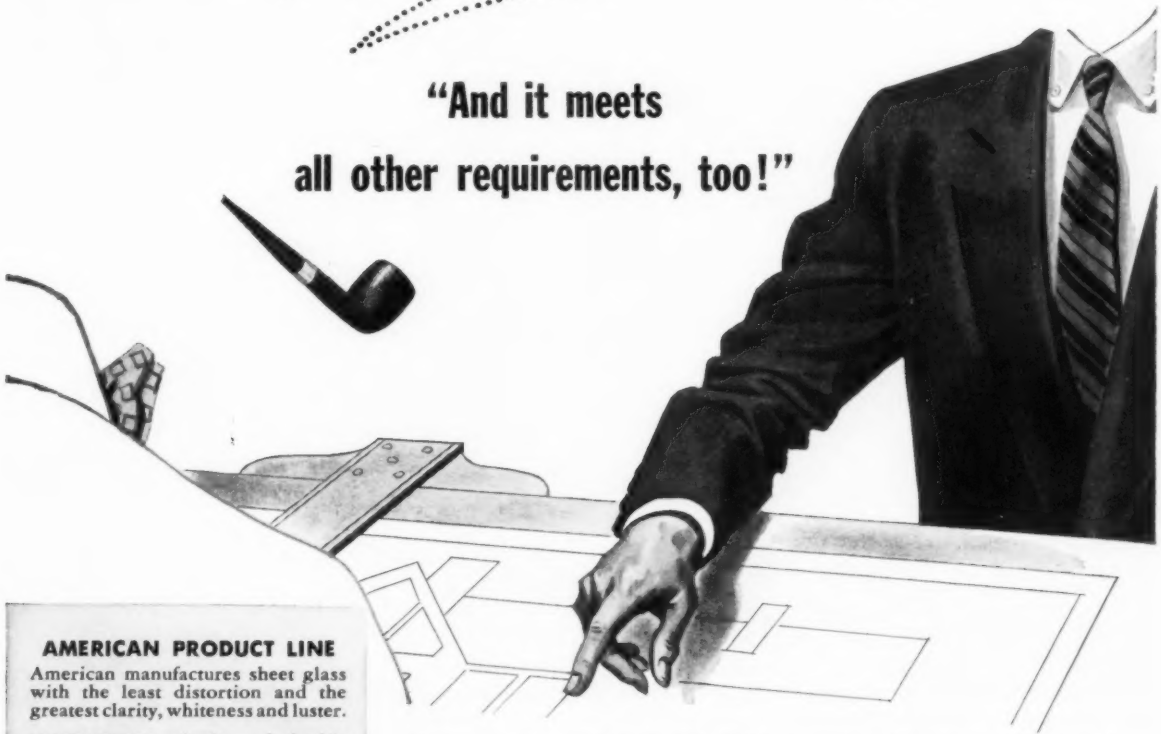


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LUSTRACRYSTAL* will substantially cut glass costs"



"And it meets all other requirements, too!"



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American manufactures sheet glass with the least distortion and the greatest clarity, whiteness and luster.

LUSTRAGLASS—single and double strength for conventional glazing.

LUSTRACRYSTAL—economical heavy sheet glass for larger openings and many other applications.

* MAX. SIZE—72" height x 120" width. Information on larger sizes available on request.

THICKNESS—3/16", 7/32", 1/4".

LUSTRAWHITE—a picture glass of exceptional clarity and flatness.

LUSTRAGRAY—for better television viewing; and special glazing.

BULB EDGE GLASS—for use as counter dividers, wind deflectors and shelves.

THIN GLASS—for microscope slides and covers. Extremely flat and true to tolerance.

SUPRATEST—a laminated safety glass.

PANAL—a fiberglass-reinforced plastic structural panel.

WATCH OUR PRODUCT FAMILY GROW

WSW 6089

Economy-wise architects and builders, nationally, are specifying and using American Lustracrystal instead of costlier plate glass for many glazing applications. Builders following this practice have reported saving as much as 35% on glass costs.

Economy is only part of the Lustracrystal story. Greater strength, more resistance to wind pressure and impact, makes Lustracrystal a very dependable structural glass.

Lustracrystal provides unimpaired vision and is produced with a fire-finished luster that adds external beauty to modern structures.

Always specify and use AMERICAN for:

- **True Economy**
- **Dependable Strength**
- **Crystal Transparency**
- **Lustrous Beauty**

MODERN GLASS
Best at a Glance
. . . Use

AMERICAN

american

AMERICAN WINDOW GLASS CO., PITTSBURGH, PA.

PLANTS: ARNOLD, PA. • ELLWOOD CITY, PA. JEANNETTE, PA. • OKMULGEE, OKLA.



CHASE® COPPER ...sign of QUALITY in drainage lines!

Remarkable how inexpensive it is to give drainage lines *two-way extra quality*, with Chase copper drainage tube (DWV). *Far longer* service life and greatly *improved* efficiency are assured.

Drainage lines of Chase copper tube *resist* corrosion—*can't* clog with rust—*stay efficient* over the years! Their interior is smoother; flow is unobstructed at joint connections—*larger volumes* of waste water can pass through them because friction is *reduced!*

Chase copper drainage tube is 4 times *lighter* than ordinary drainage pipe. Can be pre-assembled and installed with great savings in time! It can be cut to length right on the job. Requires fewer joints because it comes in 20 foot lengths. And rugged, leakproof solder joints fit within standard partitions, eliminating expensive furring out!

Insist on Chase copper drainage tube (DWV). Add *extra-value* to every home—with *little or no extra cost!*



Longer-lasting radiant heating installations are economical, quick and clean when made from Chase copper water tube. No worry about leaks or repairs—can't clog with rust!

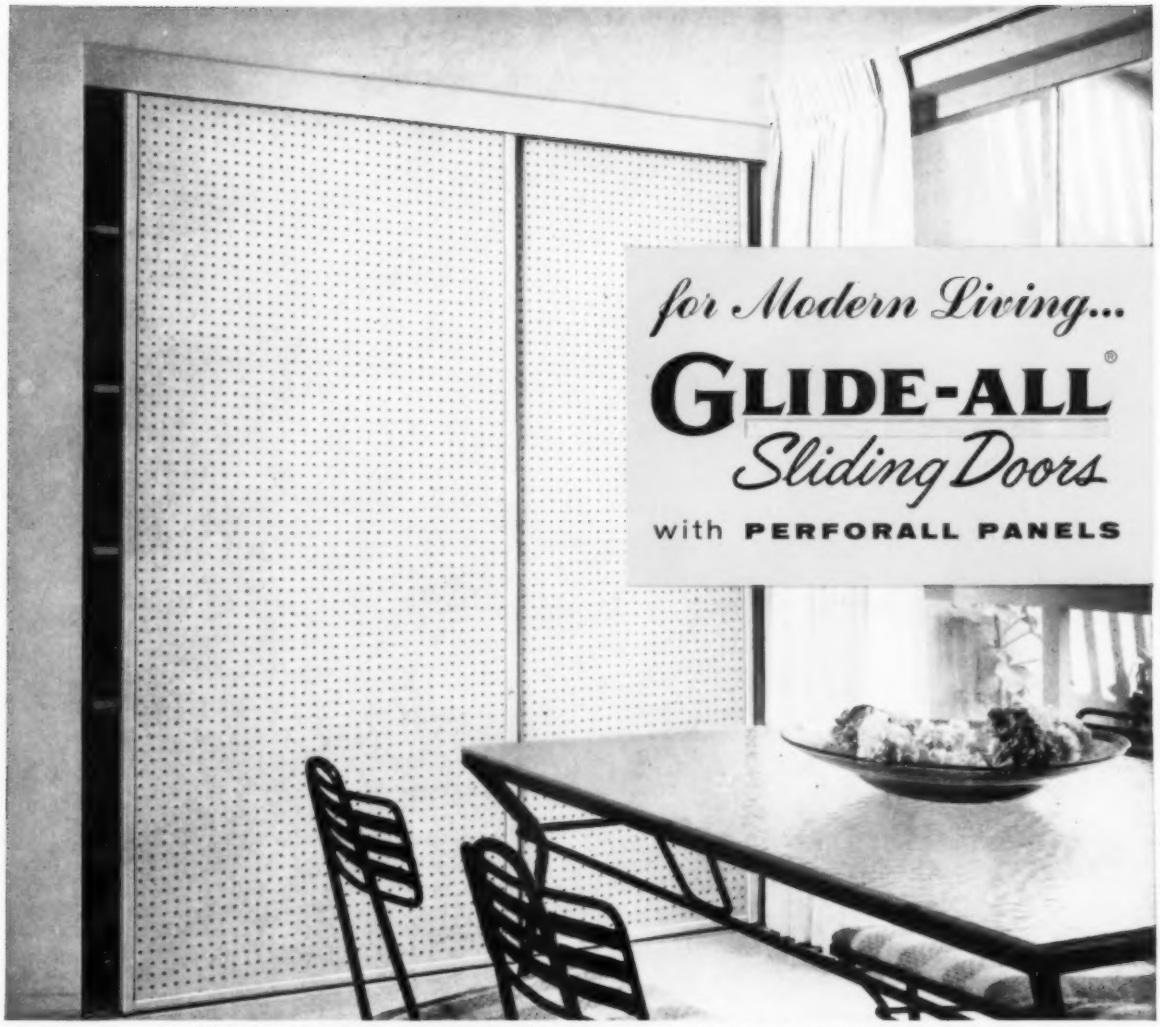
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for Modern Living...

GLIDE-ALL®

Sliding Doors

with **PERFORALL PANELS**

Glide-All Sliding Doors of Perforall provide the proper closet ventilation to keep clothes or linens always fresh and airy. They also add interesting contrast in interior decoration as in this modern dining room in Puente, California • Architect is Edward H. Fickett, A.I.A.; builder, McDonald Brothers Co.

You can make your storage space a "show-off" feature with these Glide-All Sliding Door panels in modern Perforall (perforated Masonite Duolux). And, with the decorative versatility of Glide-All Solid Panel Sliding Doors you'll find so many ways to attractively finish them—wallpaper, paint or special treatments to match room walls.

Glide-All Sliding Doors make *more* usable storage space, at *lower* cost, decoratively *handsome*. They are available in standard 6′ 8″ and 8′ floor-to-ceiling heights in a wide variety of widths.

See "Sweet's" or write today for details

Glide-All Doors are available from distributors throughout the United States and Canada • For complete information write to plant nearest you.

GLIDE-ALL SLIDING DOORS ARE A PRODUCT OF

WOODALL INDUSTRIES INC.

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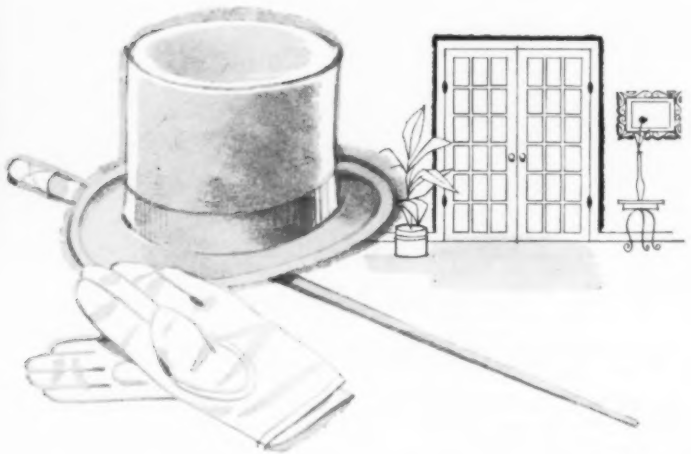
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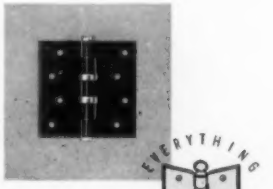
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Basement for a Vibrapac concrete block home. Note standard 8" units can be used in center of basement as a bearing wall, instead of using conventional steel posts.

"Lower Living Room" replaces basement in modern home building

During the past few years, an overwhelming demand for housing influenced many builders to adopt home designs which could be erected quickly and economically. Such designs often eliminated the basement. Slabs and crawl space were substituted.

The importance of a good basement to sound planning for modern living continued to be apparent, however, as more and more homes were built. So much so that current building practice again emphasizes the basement as basic to a well designed home. The new concept of a basement's place in the home has much to do with this trend. No longer is the excavated area under a house regarded as a "cellar" . . . gloomy, poorly ventilated and usable only for furnace, water heater, laundry and odds and ends. The basement today is actually not a basement at all but a "lower living room." This change has come about through the use of modern scientific construction methods which keep the basement dry, cool and airy in summer and pleasantly temperate in the coldest weather. In consequence, living rooms, studios and even bedrooms are all on the below-ground level in many of the most attractive and comfortable homes being built today.

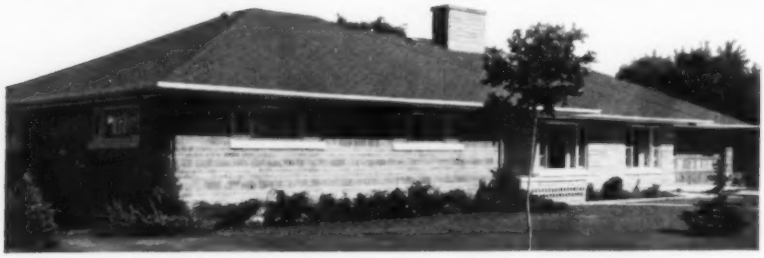


Corner nook in a modern basement recreation room.

Today's basements are cool and comfortable in summer . . . warm and dry in winter.



In the past, the economical construction of a dry, airy and cheerful basement was often a problem. With the increasing use of VIBRAPAC concrete block, this problem has ceased to exist. Produced by automatic machines, VIBRAPAC block is dense and uniformly textured. It is naturally water resistant and effectively sound proofed. Available in a variety of colors, sizes, and finishes, as well as in split-block innovations, VIBRAPAC block is easily adaptable to any type of architectural design not only for basement construction but for the entire home, as well as commercial and industrial structures of all kinds.



Vibrapac block constructed home. Note unusual effects created by using 4" and 8" high block.

The home built entirely of VIBRAPAC block has long been recognized as one of the best and most attractive examples of good construction practice. And where cost is a major factor, the use of such block is especially desirable. This material can be handled and laid with ease, speed and accuracy, thereby providing marked savings in time and labor. The story of VIBRAPAC block is an interesting and profitable one for builder and home owner alike. Complete literature on request. Write BESSER COMPANY, Box 173 Alpena, Michigan, U.S.A.

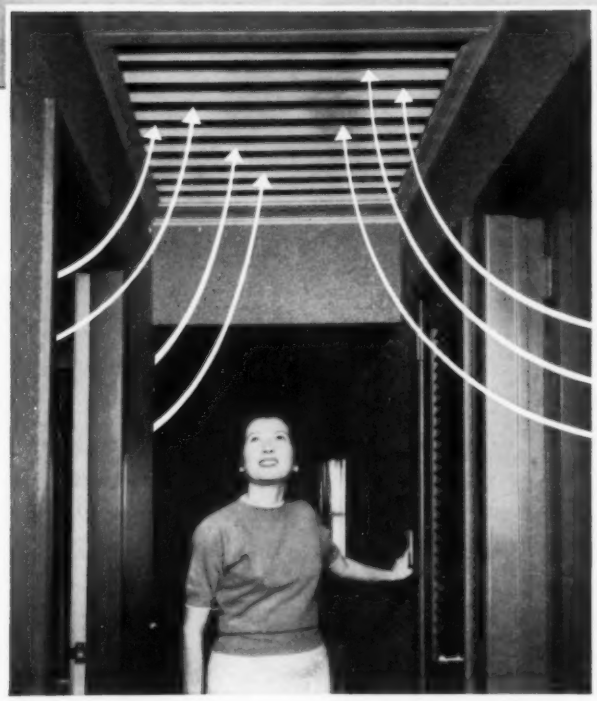
A 8533-1P A

How to cool a house for $145*

with a Hunter Attic Fan



**List price for 5000 CFM Hunter Attic Fan. Trade discount to builders.*

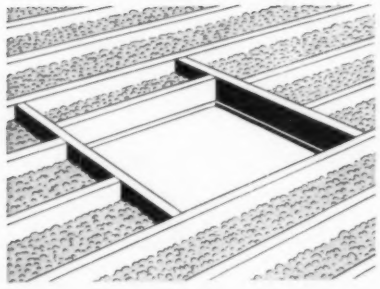


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Consult your classified phone book and phone your local Hunter distributor. Or write Hunter Fan and Ventilating Co., Box 3775-F, Memphis 14, Tenn., for complete data.

HUNTER ATTIC FAN IS EASILY INSTALLED



Step 1. Frame ceiling joists for opening. This involves no extra expense on new construction.



Step 2. Place Hunter Fan on attic floor or joists over ceiling opening. Easily wired from fan junction box.



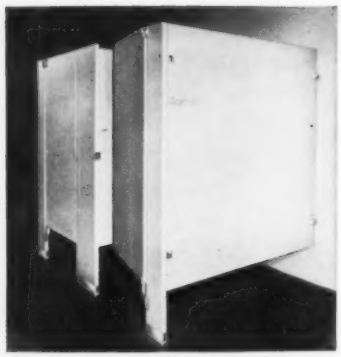
Step 3. Screw-fasten automatic ceiling shutter. Metal trim covers edges of opening. No finishing.

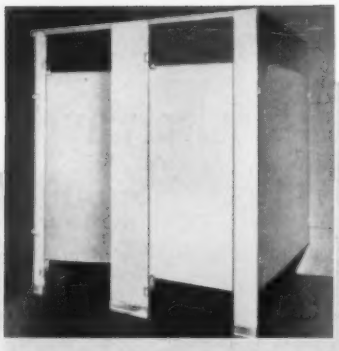
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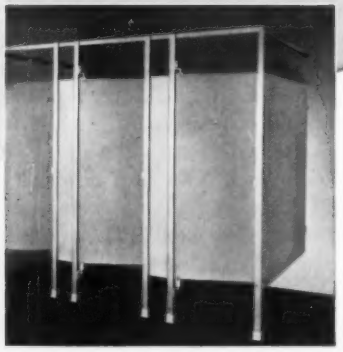
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However, Prestressed Concrete Inc., located in St. Paul, Minn. where temperatures range from a congealing 30° below zero to a sizzling 100° above, has its casting yard completely enclosed as pictured here.

The cost of this yard, including its overhead crane, but not including land and concrete mixing equipment, was about double that of an open yard. But housing of the necessary machinery and curing facilities permits continuous operation. Products to date include prestressed channel slabs, beams and girders as well as precast columns and wall panels. Yearly output sells for more than twice the amount of the original investment.

If you are interested in the possibility of establishing a casting yard, ask us for information and suggestions. Construction Materials Division, John A. Roebling's Sons Corporation, Trenton 2, N. J.



Four channel beds at left are 200′ long. In center is bed for precasting reinforced beams. Next to the right is a 100′ bed for prestressing beams. At far right is a form for precasting columns.



Roebling 7-wire strand, showing valleys between wires which produce mechanical bond.

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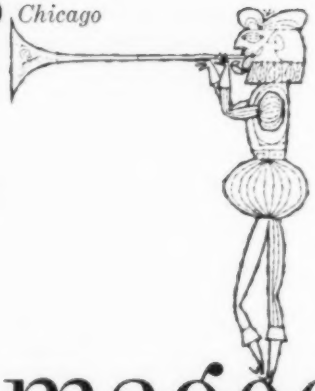
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where fast action is a must!



This huge floor of Columbus (Ind.) High School has a lively, slip-resistant surface which officials term "perfect for high speed Indiana Basketball." McGuire and Shook, Architects.



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All gym floors must be designed for *ACTION* . . . and the activities on those floors should be safe for the youngsters. Basketball is among the fastest sports played on the gym floor and to be played well the players must have confidence that pivots, fast breaks and all tricky footwork are safe, steady, sure . . . otherwise well organized team play becomes pure chaos with each team member looking out for his own skin.

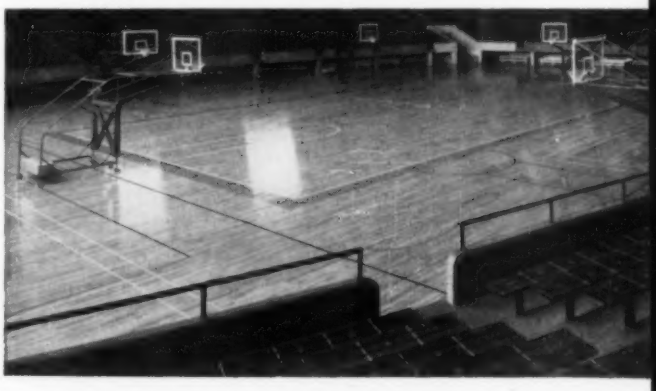
All modern sealers provide a surface that is relatively easy to maintain. All to a degree, enhance the beauty of the wood. All are sold on performance. But, *only* Seal-O-San can give you the assurance of a really lively and safe floor for all types of fast action under nearly any condition.

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See our catalog in Sweet's — 13M.



The home court (Allen County War Memorial Coliseum) of the fabulous professional Zollner Pistons was once finished with another "good" sealer until extreme slipperiness made good basketball impossible. Then Seal-O-San was applied to the floor and it since has proven very helpful to the Pistons' fast action game. A. M. Strauss, Architect.



Adolph Rupp, famed coach of the University of Kentucky, recommends Seal-O-San to one and all as "the best floor finish." He insisted that Seal-O-San be the only finish used in his huge fieldhouse. J. T. Gillig, Hugh Meriwether and E. V. Johnson, Architects.

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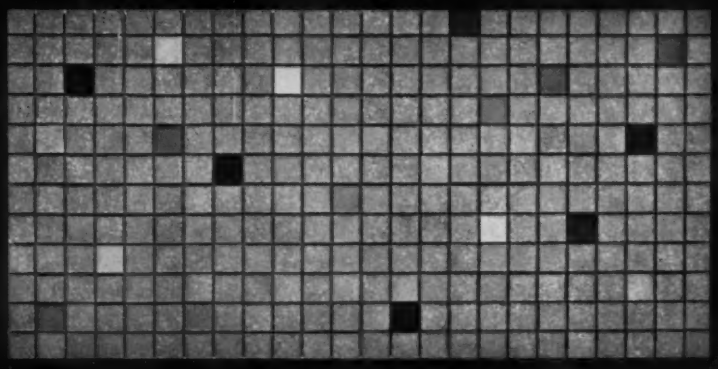
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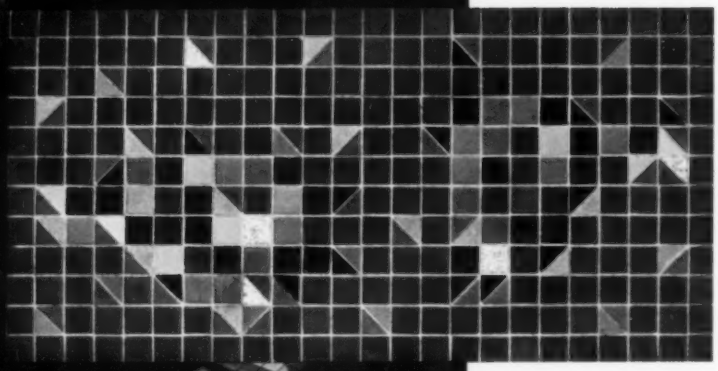
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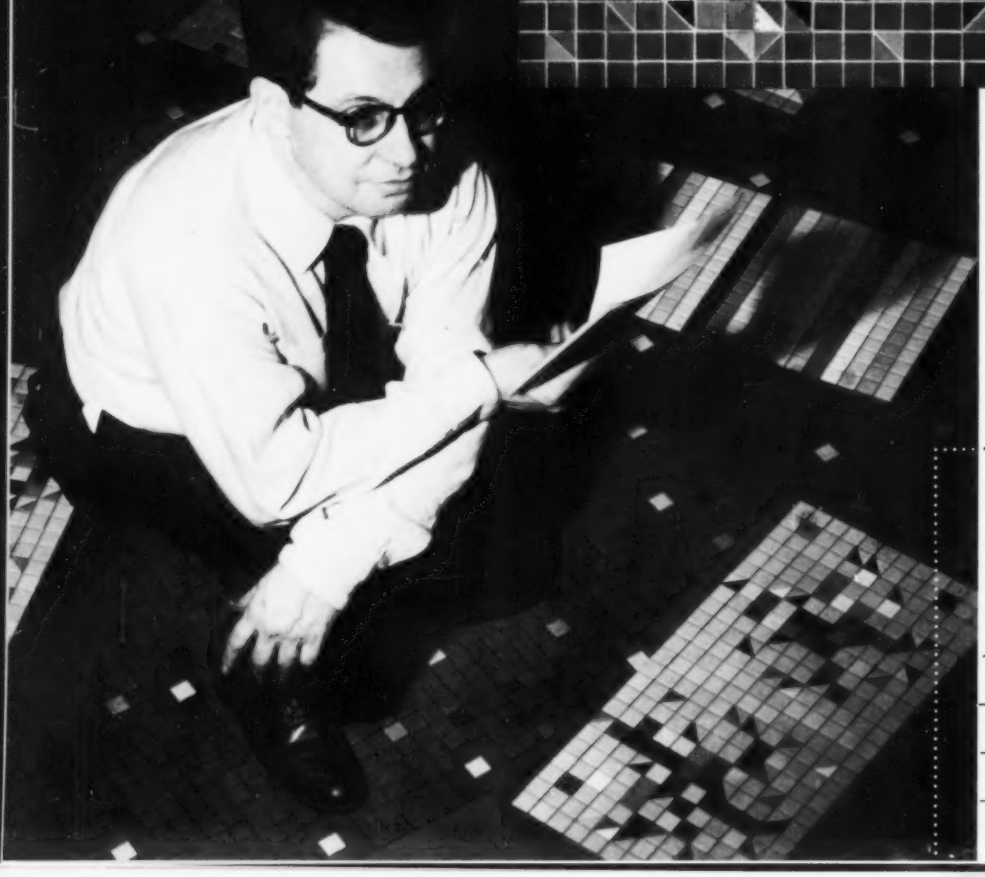


◀ Spivak Suntile Design No. 14 (Static Buckshot)
Field color: 131 Birch

Max Spivak designs in *Suntile* ceramics



▲ Spivak No. 9 (Tropical Fish)
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Please send me:

☐ *Folder showing Suntile patterns by Max Spivak in full color.*

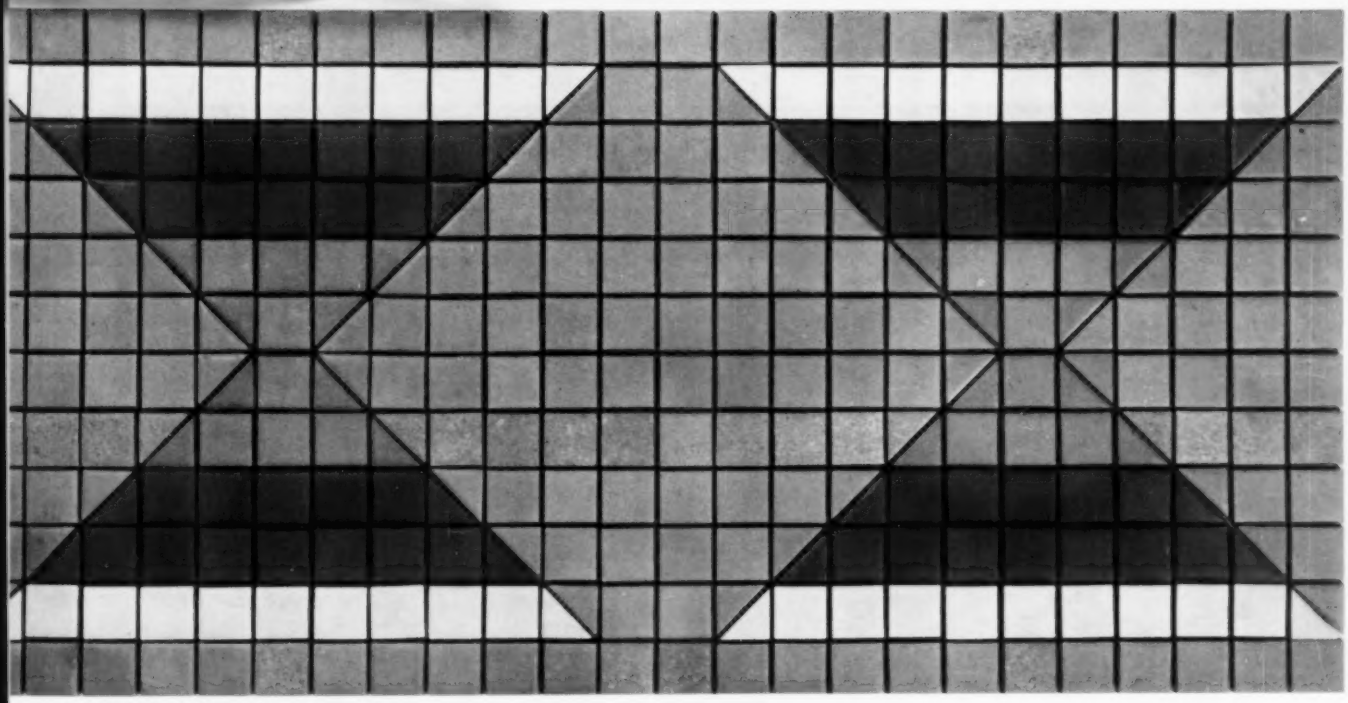
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▲ Spivak No. 8 Hour Glass *(ungrouted)*
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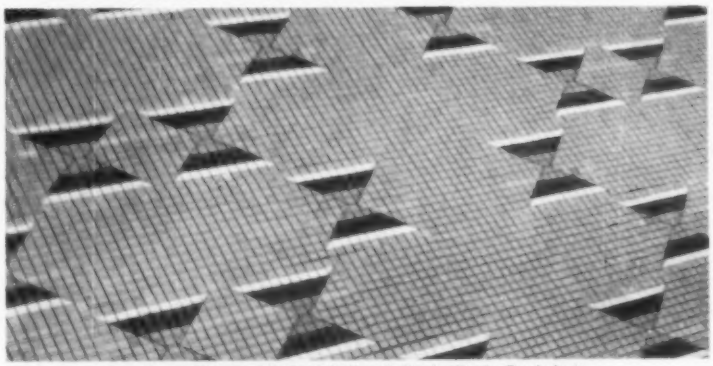


Spivak Suntile Designs, Copyright 1956

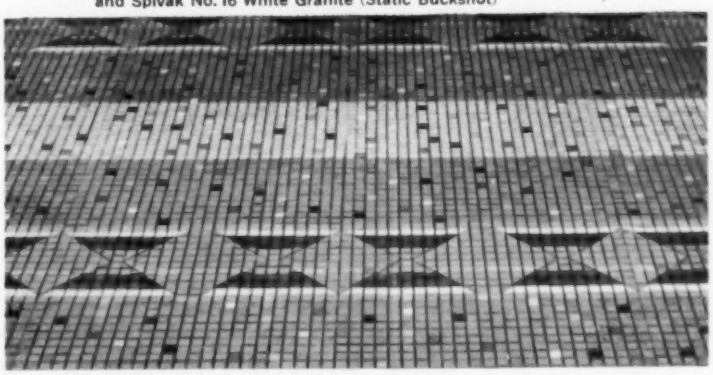
THE CAMBRIDGE TILE MFG. CO.

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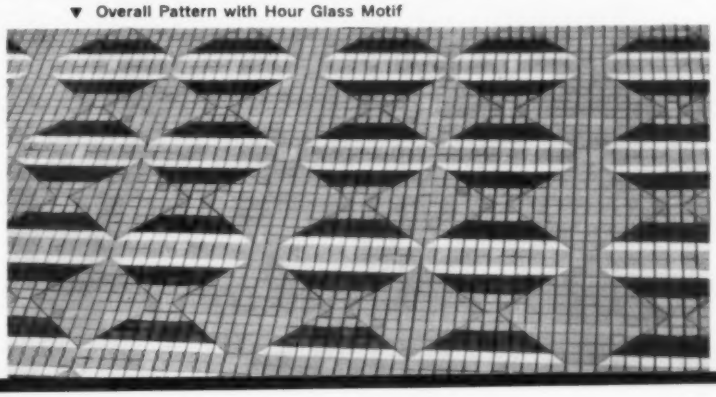
▼ Hour Glass Motif with Field color of 253 Light Dresden Blue



▼ Hour Glass Stripe with Spivak No. 14 Birch (Static Buckshot) and Spivak No. 16 White Granite (Static Buckshot)



▼ Overall Pattern with Hour Glass Motif





SEND FOR THE V-BEAM CATALOG TODAY.

How to open doors to CONTRACT AWARDING



The man with the V-BEAM bid not only opens doors, he closes contracts.

He has a structural support for floors and roofs that is lighter, more economical and yet has an actual carrying capacity of over twice the published loadings.

Macomber V-BEAMS extend construction dollars, and their proof of performance has been recorded by the industry's most honored proving ground—The Pittsburgh Testing Laboratory.

YOU CAN PROVE THE SOLID STRUCTURAL AND ECONOMIC VALUES OF V-BEAMS OVER ALL OTHER FLOOR AND ROOF SUPPORTS IN JUST ONE PROJECT WITHIN THE 48 FOOT SPAN RANGE.

STANDARDIZED STEEL BUILDING PRODUCTS

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• ENGINEERING • FABRICATING AND ERECTING •

NAILABLE STEEL JOISTS
•
LONGSPANS
•
BOWSTRING ROOF TRUSSES
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STRUCTURALS

Whether your commercial and industrial designs are...

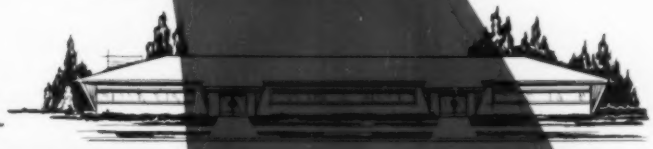
ultra modern



traditional



or contemporary



you need **Burkay®**

for all your Hot Water Needs

When you specify *Burkay*, you are not tampering with quality . . . you are buying the outstanding commercial water heater on the market. One you can take pride in specifying.

Pace-setting engineering design, long experience in gas appliance work, careful material selection, capable workmanship, high-level quality control—the result is an efficient water heater that you can depend on.

Burkay water heaters have found wide use and substantial acceptance in all types of commercial and industrial applications. They have a proven record of fine performance. Require minimum maintenance.

It will pay you to investigate *Burkay* water heaters for your building designs. Call your nearest A. O. Smith distributor.



Through research ...*a better way*

A.O.Smith

CORPORATION

PERMAGLAS DIVISION • KANKAKEE, ILLINOIS

OUTSTANDING FEATURES—Efficient generation of the right temperature hot water. Instant response to hot water demands. High outputs. High recoveries. Rust-free water. Corrosion-free. Sturdy construction. Minimum maintenance. Reliable. Safe. A.G.A. approved. ASME approved.

BROAD LINE—*Burkay* "all-copper" heaters for large volume jobs. Duracted "glass-lined" self-contained storage heaters for heavy duty use where water conditions and type of service justify. Special "glass-lined" units for modernization or replacement.

WIDE RANGE OF OUTPUTS AND RECOVERIES—50,000 to 420,000 BTU per hr. 42 to 403 gal. per hr. per 100° rise.

MANY HOT WATER SYSTEMS—For all types of water heater applications. Instantaneous, booster, recovery, or the Patented A. O. Smith Flow-Recovery or Shure Temp. Booster-Recovery Systems for providing the sanitary rinse and the general-purpose hot water for restaurants. No line of commercial water heaters has such wide application.

SERVICE TO ARCHITECTS—Complete sizing data, installation drawings, sample specifications and other data available to you for ease in specifying the correct water heater for your job requirements.

SEE the 1956 Issue of Sweets' Catalog or write us for information on any specific application.



THEODORE OSMUNDSON, JR. JOHN H. STALEY, JR.

An enviable reputation in the field of landscape architecture has grown around the San Francisco firm of Theodore Osmundson, Jr., and John H. Staley, Jr., partners since 1946.

GARDEN REDWOOD, because of its beauty and great durability, has been used by them in an imposing list of residential gardens—and equally well in the field of industrial, recreational, and educational landscaping.

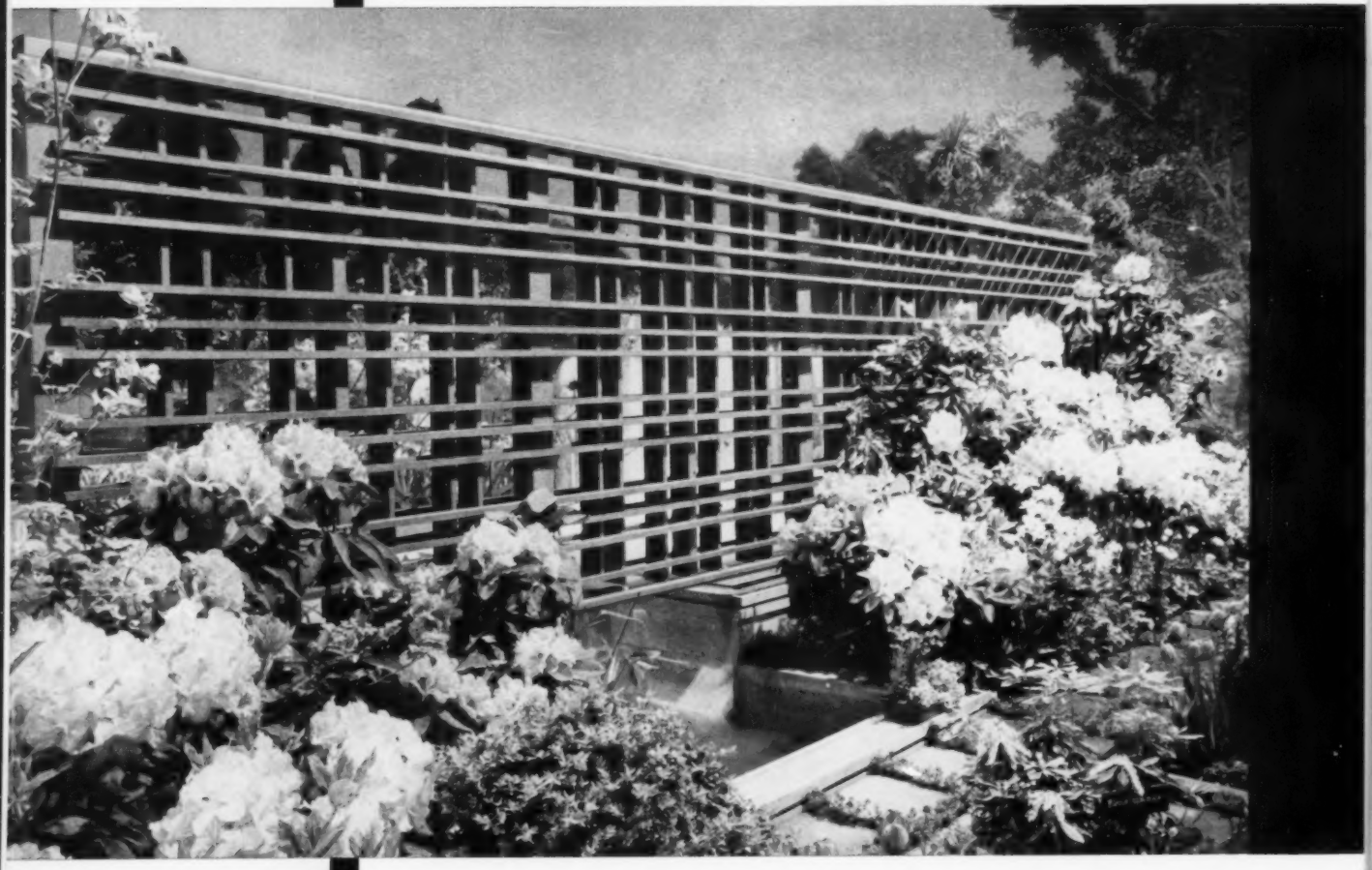
Osmundson and Staley are also known for their design of the 1955 California Spring Garden Show . . . from which a detail is shown below.

Stimulating design ideas for garden structures may be found in the new CRA *Garden Ideas* booklet. Write now for your free copy.

GRADE MARKED • TRADE MARKED

CALIFORNIA REDWOOD

CALIFORNIA REDWOOD ASSOCIATION
576 SACRAMENTO STREET • SAN FRANCISCO 11



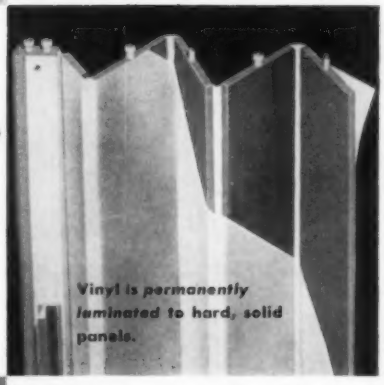
the newest outstanding Grant product development



the Grant folding door

A REAL DOOR THAT FOLDS!

styled by Paul McCobb





features

Solid Panels: The solid panel construction of this Grant door is a revolutionary development in a folding door at moderate price. The *Grant Folding Door* has crisp, clean lines, blocks sound, hangs rigid without billows or rustle. Knock on it. It sounds and feels like a door.

Space Saving: Frees an average of 14 square feet of floor space (19 square feet of wall space) for living space, better arrangement of furnishings.

Durable — Easy to Maintain: Vinyl surface can be wiped with a damp cloth — scrubbed if necessary. Tough and long-wearing, resists scuffing, color is permanent.

Easy Installation: Only a screwdriver is needed to install the *Grant Folding Door* in standard door openings in minutes. Readily adaptable to non-standard openings.

Decorative Flexibility: Color styled to harmonize with modern or traditional furnishings. Attractive design of handles, track and other details, also specially styled by famous Paul McCobb.

▶ Ask for your copy of fully descriptive specifications booklet, the swatch book showing the attractive colors available and texture of the non-scuffing vinyl finish.

the Grant folding door

"A REAL DOOR THAT FOLDS"

Grant Pulley and Hardware Corporation
31-71 Whitestone Pkwy., Flushing 54, N.Y.
944 Long Beach Avenue, Los Angeles 31, Calif.

Other Grant Products:
Sliding Door Hardware • Drawer Slides
Drapery Hardware • Sliding Door Pocket Frames
Sheaves and Tracks • Pulls • Industrial Slides

Recent Schieber installation: Bristol Primary School, Webster Groves, Mo. Architects: Hellmuth, Yamasaki & Leinweber, St. Louis.



SCHIEBER 1931 25 1956 FOLDING TABLES BENCHES

We'll Venture A Guess!



Still in daily use! The first Schieber installation, made 25 years ago in Oliver Wendell Holmes School, Detroit, Mich. Architects: Malcomson, Fowler & Hammond, Inc., Detroit.

Looking into the future — in 1981 the schools we are now building may appear as obsolete as those built 25 years ago seem today. We'll venture a guess, though; The multi-purpose room, the Schieber equipped combined lunch room — activities area, will be even more universally used. Thousands of Schieber installations have already been made and Schieber's strong, rugged construction and sound engineering have proved the design principle to be practical. Write for our architects file.

IN-WALL
PORT-A-FOLD
MOBIL-FOLD
TRANSI-FOLD

Schieber
SALES COMPANY
Detroit 39, Michigan

Representatives in all areas—U. S. & Canada



A NEW SCHIEBER PRODUCT

Complete new concept. Honeycomb core reduces weight to ⅓. No floor tracks or guides, yet positive floor seal. New surface resists mars, scratches, vandalism. Electric-hydraulic operation.

SCHIEBER-HAWS FOLDING PARTITIONS

Keyed to the Needs of the Modern Church...





Johnson *DUAL* Control

The busy activity program of the First Congregational Church* in Spencer, Iowa, is typical of that provided by many of today's churches.

Between religious services, Sunday school classes, fellowship meetings and social club affairs, some rooms of this award-winning building are in use much of the time.

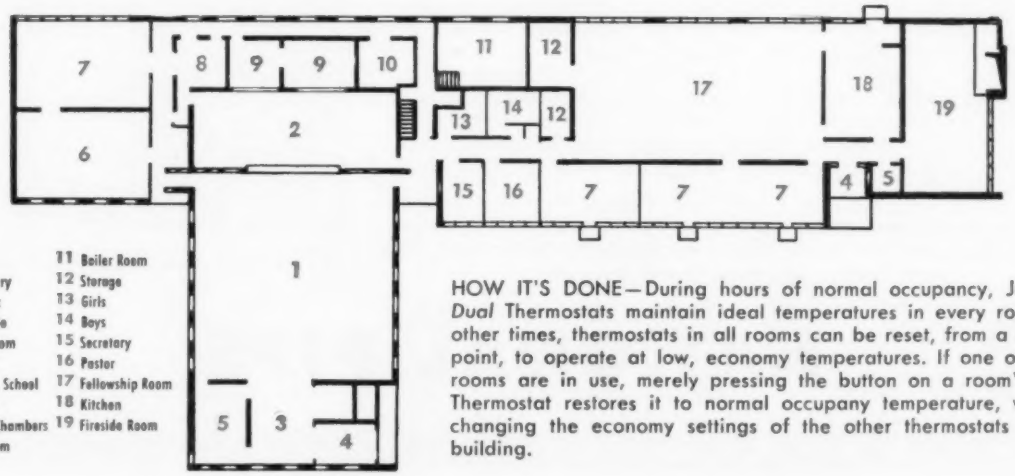
To keep heating costs down and yet insure complete comfort when only a few rooms are occupied, Johnson engineered and installed a system of *Dual* Control that provides precision, waste-free operation of the multi-zone heating and ventilating unit and the hot water heating system. During periods of limited usage, only the *occupied* rooms are heated to normal comfort levels while lower, non-occupancy temperatures prevail elsewhere in the building.

Johnson *Dual* Control provides the finest in room by room temperature regulation. It offers the flexibility needed to solve all of the special comfort problems of modern religious buildings. At the same time, the exceptional economy features of Johnson *Dual* quickly result in fuel savings sufficient to pay for the entire system!

Any building—small or large, new or existing—can enjoy the superior comfort and money-saving advantages of a Johnson-engineered control system. An engineer from a nearby Johnson branch has the right answer to any problem of heating, cooling, ventilating or air conditioning control. His advice is yours without obligation. Johnson Service Company, Milwaukee 1, Wisconsin. Direct Branch Offices in Principal Cities.

*First Congregational Church, Spencer, Iowa. Harold Spitznagel & Associates, architects and mechanical engineers, Sioux Falls, S. D.; Pitcher Plumbing & Heating, heating and ventilating contractor, Spencer, Iowa.

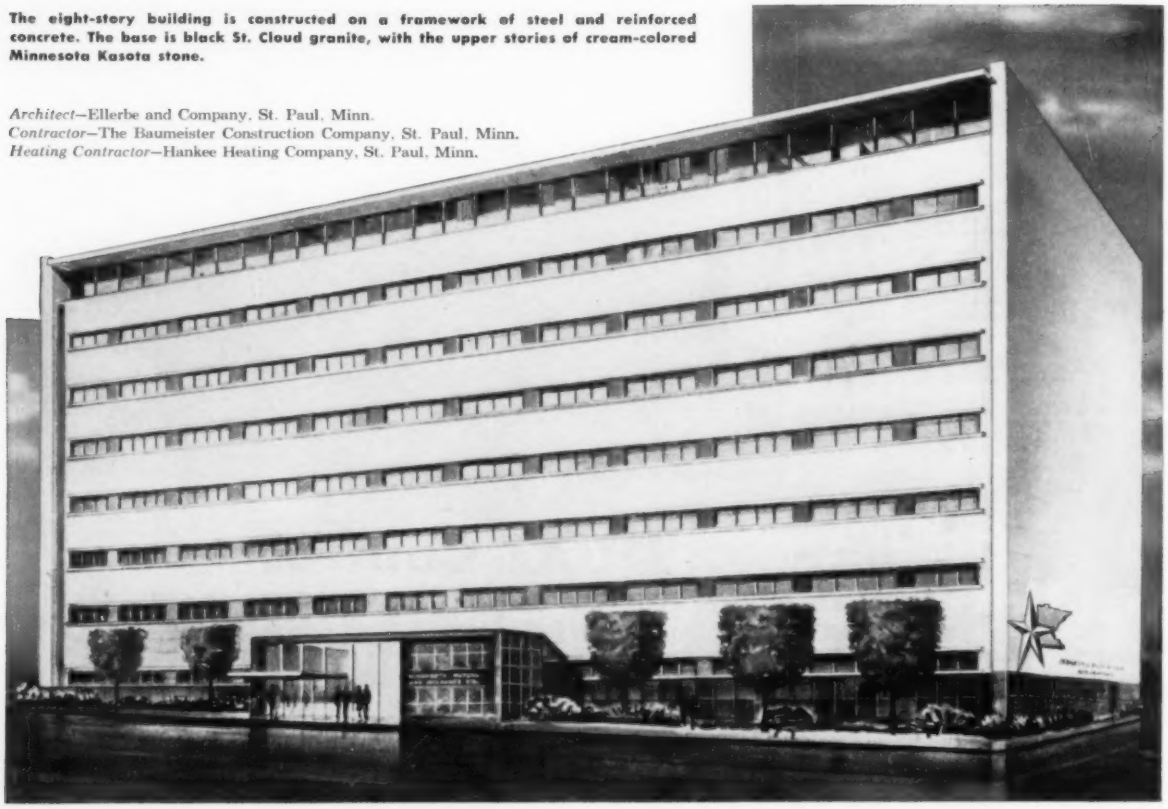
JOHNSON CONTROL
SINCE 1885
PLANNING • MANUFACTURING • INSTALLING



HOW IT'S DONE—During hours of normal occupancy, Johnson *Dual* Thermostats maintain ideal temperatures in every room. At other times, thermostats in all rooms can be reset, from a central point, to operate at low, economy temperatures. If one or more rooms are in use, merely pressing the button on a room's *Dual* Thermostat restores it to normal occupany temperature, without changing the economy settings of the other thermostats in the building.

The eight-story building is constructed on a framework of steel and reinforced concrete. The base is black St. Cloud granite, with the upper stories of cream-colored Minnesota Kasota stone.

Architect—Ellerbe and Company, St. Paul, Minn.
Contractor—The Baumeister Construction Company, St. Paul, Minn.
Heating Contractor—Hankee Heating Company, St. Paul, Minn.

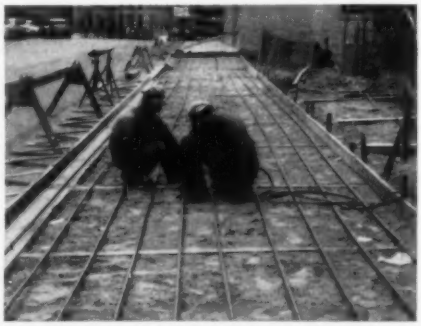


BEAUTIFULLY EFFICIENT... EFFICIENTLY BEAUTIFUL...

Minnesota Mutual Life Insurance Company's gleaming new Home Office Building is the result of the combined efforts of the company's planners, the architects and the builders to couple modern beauty with top efficiency. It is said the now-completed structure is the most efficient physical plant that could be designed for the complex operations of this growing organization.

A significant phase in the effort to obtain the utmost in efficiency and dependability was the installation of USS NATIONAL Steel Pipe for the hot water heating and snow melting systems of the handsome new structure. Over 7000 feet of ¾-inch NATIONAL Pipe were used in the snow melting system, alone.

The consistent selection of NATIONAL Steel Pipe for the "big jobs" is nothing new. For over 60 years NATIONAL has been the accepted pipe for plumbing and heating systems. Regardless of the application, architects, builders and contractors know from long experience that they can put their complete confidence in the uniform, dependable performance of NATIONAL Pipe. Plan on using America's Standard Wrought Pipe in your next installation.



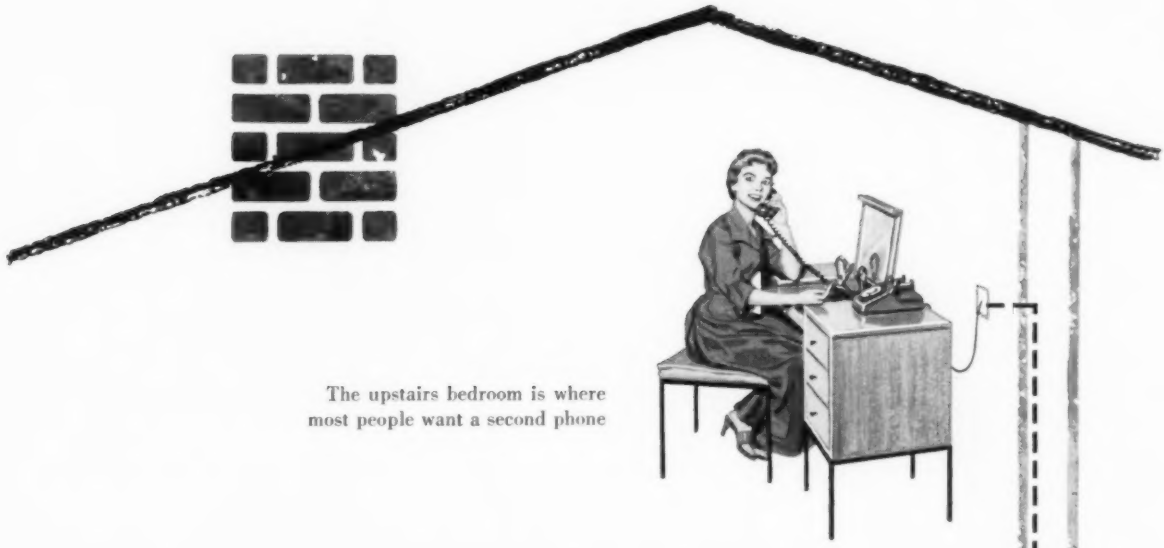
The snow melting system being installed. All ¾-inch lines and 2-inch headers were of NATIONAL Steel Pipe.

NATIONAL TUBE DIVISION, UNITED STATES STEEL CORPORATION, PITTSBURGH, PA.
COLUMBIA-GENEVA STEEL DIVISION, SAN FRANCISCO, PACIFIC COAST DISTRIBUTORS
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

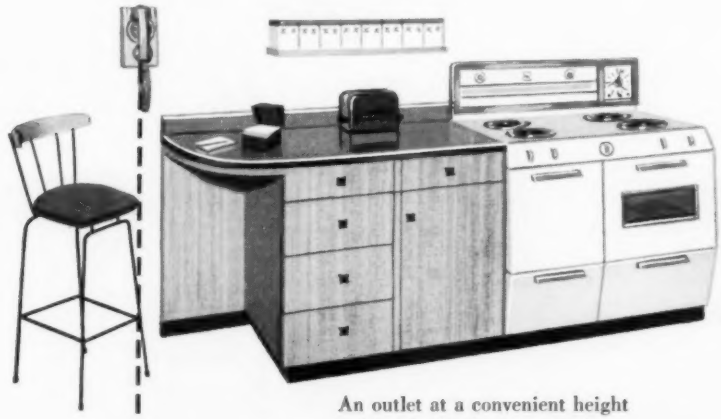
USS

NATIONAL PIPE

UNITED STATES STEEL



The upstairs bedroom is where most people want a second phone



An outlet at a convenient height is ideal for kitchen installations

Upstairs . . . downstairs . . . wherever the modern family sleeps, works, or plays, good planning calls for built-in telephone outlets . . . and concealed telephone wiring.

BELL TELEPHONE SYSTEM

Your Bell telephone company will be glad to help you work out economical concealed wiring installations. Just call your nearest business office and ask for *Architects and Builders Service.* For details on home telephone wiring, see Sweet's Light Construction File, 8i/Be. For commercial installations, Sweet's Architectural File, 32a/Be.


why invite FIRE?
KEYMESH lath for overall reinforcement. Made of galvanized woven wire. Especially recommended for ceiling construction.
KEYCORNER strip lath, preformed to fit snugly in corners. Lies flat when applied to joints. Galvanized to prevent rust streaks.
KEYBEAD corner lath with precision formed bead for outside corners. Open mesh assures strong, solid plaster corners.

you multiply fire resistance for pennies per square foot with



KEYMESH

Some types of walls and ceilings invite fire.

When you use lath and plaster, plus KEYMESH, you cut fire hazard immeasurably. Just compare the difference.

With frame construction, a ceiling with exposed joists is gone in 15 minutes. Finished with gypsum lath, lightweight aggregate plaster and Keymesh, it stands up an hour and 38½ minutes.

With open web steel joists, the ceiling fails in 7 minutes when joists are exposed. Add gypsum lath and 1″ of lightweight aggregate plaster over KEYMESH and the ultimate fire resistance is 4 hrs. and 26 min.

With most types of light construction you'll find that lath and plaster with KEYMESH reinforcement can make the difference between "heavy loss" and "light damage" to buildings. You can do this at negligible cost . . . for pennies per square foot of finished surfaces.

Firesafety is not the only advantage of using KEYMESH reinforcing lath. Beauty, durability, and economy must be part of everything you design. With Keymesh you get all these plus other important advantages for your clients such as lower insurance rates and complete adaptability for any type of decoration.

Before you specify or build again, weigh these facts.

Fire Test Results on various types of construction by authoritative Testing Laboratories

CEILING CONSTRUCTION WOOD JOIST FLOORS	ULTIMATE FIRE RESISTANCE	PROTECTION OF JOISTS
Exposed joists.	15 min.	None
Gypsum wallboard ½″ thick finished with casein paint.	25 min.	15 min.
Metal lath, ¾-in. sanded gypsum plaster 1:2 for scratch and 1:3 for brown coat.	45 min.	12 min.
Gypsum lath, ½-in. of gypsum lightweight aggregate plaster reinforced with **KEYMESH**-type reinforcing lath.	1 hr. 38½ min.	36 min.

WALL CONSTRUCTION ON WOOD FRAMING	ULTIMATE FIRE RESISTANCE
½″ fiberboard.	5 min.
Metal lath with ¾-in. sanded gypsum plaster.	15 min.
Tongue-and-grooved wood.	20 min.
⅜-in. perforated gypsum lath with ½-in. sanded gypsum plaster.	30 min.

CEILING CONSTRUCTION STEEL JOIST FLOORS	ULTIMATE FIRE RESISTANCE
Ceiling unprotected.	7 min.
Ceiling of gypsum lath and ½″ lightweight aggregate gypsum plaster.	55 min.
⅜″ gypsum lath covered with 1⅛″ of gypsum plaster with lightweight aggregate.	1 hr. 43 min.
Gypsum lath and ½-in. gypsum plaster with lightweight aggregate reinforced with **KEYMESH**-type galvanized reinforcing lath.	3 hrs. 28 min.
⅜″ gypsum lath, reinforced with 20-gauge, 1″ **KEYMESH**-type lath; then covered with only 1″ of lightweight aggregate gypsum plaster.	4 hrs. 26 min.

STEEL COLUMNS	ULTIMATE FIRE RESISTANCE
Structural Steel, unprotected 10 sq. in. min. area of steel.	15 min.
Gypsum lath, one layer, ⅜″ perforated, ½-in. gypsum plaster mixed with lightweight aggregate.	1 hr.
One layer ⅜-in. perforated gypsum lath, 1-in. thickness of gypsum plaster, 100 scratch, 100 brown, mixed with lightweight aggregate.	2 hrs.
Two layers ½-in. long-length gypsum lath, 1½-in. gypsum plaster mixed with lightweight aggregate. *Lath wrapped with one layer 20 gauge galvanized 1-in.* **KEYMESH**-*type reinforcing lath.*	4 hrs.

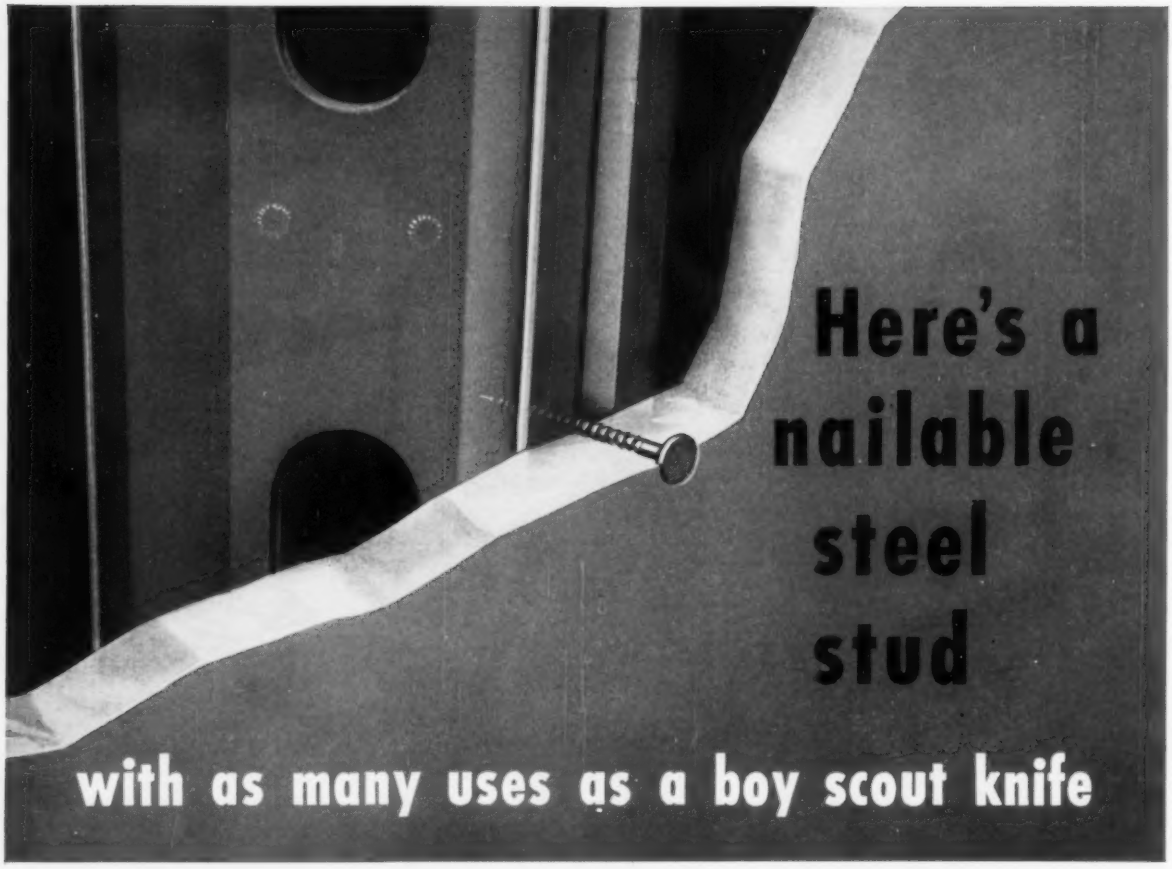
KEYSTONE STEEL & WIRE COMPANY

Peoria 7, Illinois

KEYMESH • KEYCORNER • KEYBEAD • KEYWELD
KEYSTONE NAILS • KEYSTONE TIE WIRE
KEYSTONE NON-CLIMBABLE AND ORNAMENTAL FENCE



Keymesh is a registered Trademark of the Keystone Steel & Wire Company



If you've been looking for a low cost, non-bearing steel stud that's *nailable* — stop! You can find it in Penmetal's new *Permalok* stud system.

Consisting of *nailable* steel studs, track and bridging and the necessary washers, this system offers many advantages in the erection of non-bearing partitions. Collateral materials like metal lath, gypsum lath or virtually any type of panel can be secured to Permalok studs — as simply as to wooden ones. An ingenious nailing device bites the nail or screw with a never-loosening grip. What's more the face of the stud is wide enough to permit the butting of collateral material.

Components of the *Permalok* system are inexpensive per foot of partition. Because they are light in weight and fit together readily, they are *fast, easy* and *economical* to erect. Other benefits: *Fire–safety, permanence, strength, rigidity* and *simple disassembly.*

Write for new folder which describes Penmetal's adaptable, economical Permalok system in detail.

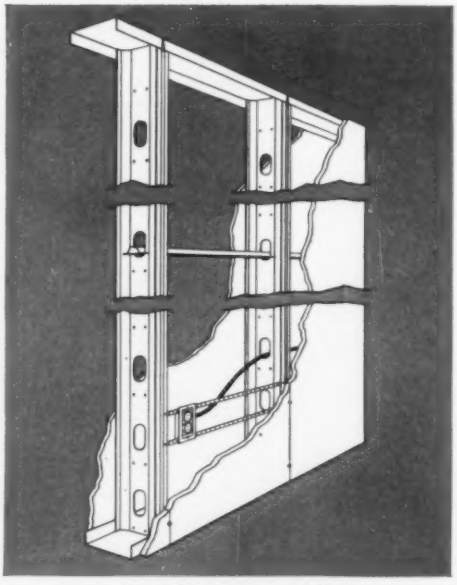
PENN METAL COMPANY, INC.

General Sales Office: 205 East 42nd St., New York 17, N.Y.

Plant: Parkersburg, W. Va.

District Sales Offices: Boston, New York, Philadelphia, Pittsburgh, Chicago, Detroit, St. Louis, Dallas, Little Rock, Seattle, San Francisco, Los Angeles, Parkersburg

METAL MARK Penmetal 1869 OF QUALITY



Typical panel assembly.

PM-112



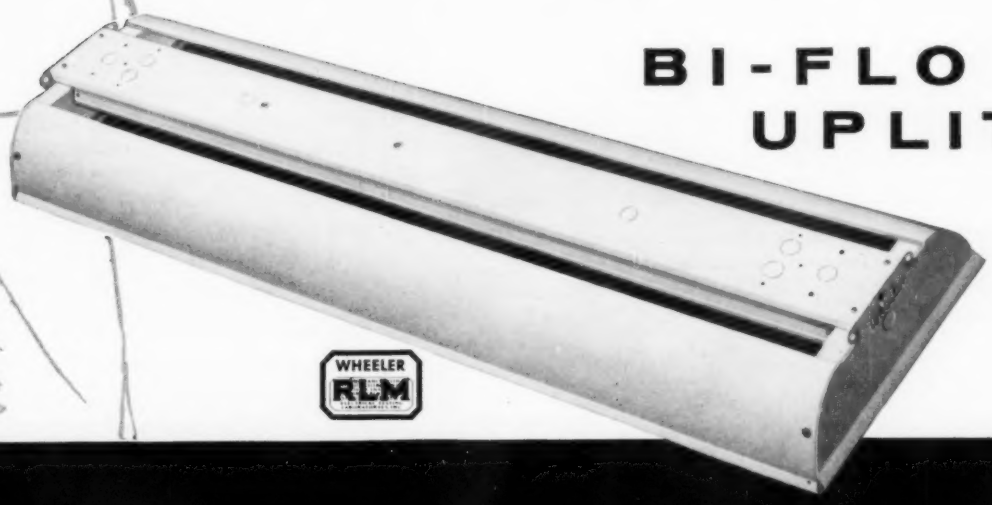
PUTTING PRODUCTION IN THE "HIGHER EFFICIENCY BRACKETS"

outstanding new industrial lighting fixture — 28% uplight! Desirable low cost!

Unique Wheeler construction! Approximately 28% of the total fixture illumination is UPWARD and 72% is downward, thus providing greater seeing comfort, better brightness ratios and higher quality illumination.

30° cross-wise shielding of both lamps reduces direct glare to a minimum. Write for Bulletin No. 97.

BI-FLO UPLITER



WHEELER RLM



There's a Wheeler Incandescent or Fluorescent Lighting Fixture to meet every industrial requirement.

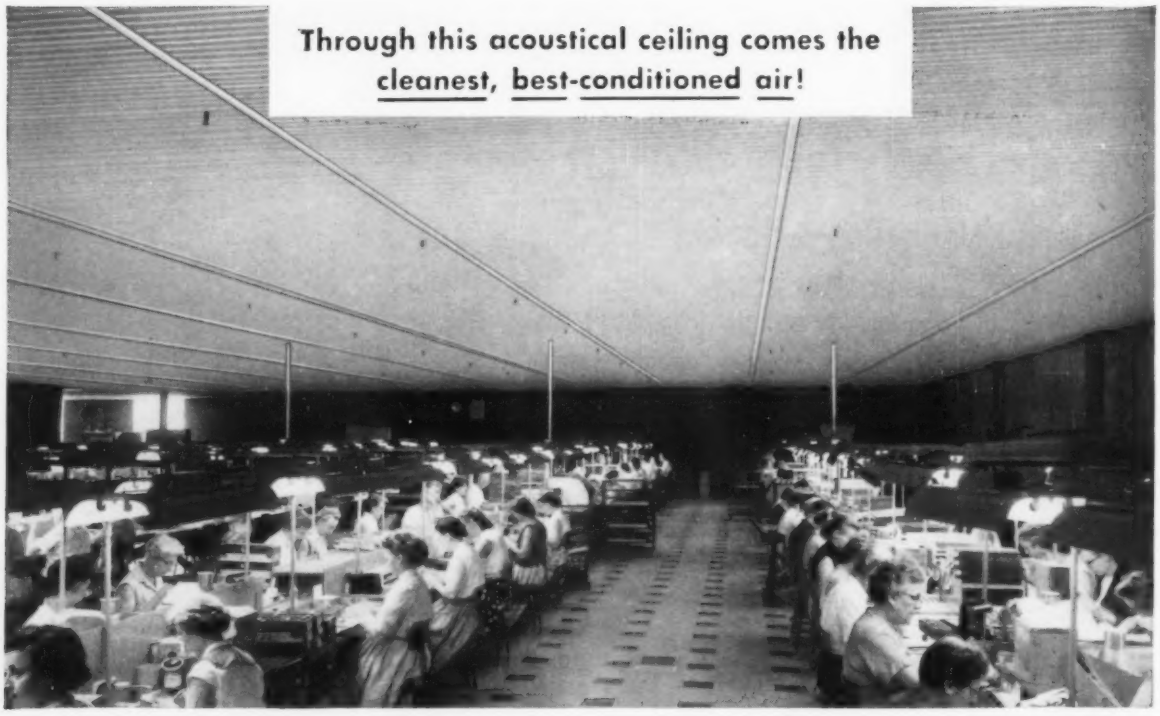
Wheeler Reflector Company

275 Congress Street - Boston, Mass.

Distributed Exclusively through Electrical Wholesalers

Certified Lighting for a Better America

75th Anniversary 1881-1956



A Dramatic Use of ReynoCoustic

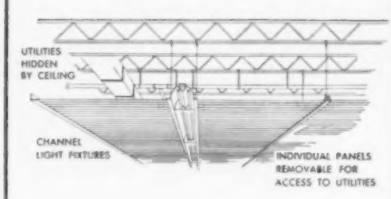


Clean air, precisely controlled for temperature and humidity is essential in aircraft instrument manufacture. Sound conditioning is also important...for worker productivity. Marion Electrical Instrument Co., Manchester, N. H., achieved both objectives by using **ReynoCoustic** as part of the air-conditioning system.

This provides noise reduction up to .90, high at all frequencies... plus draft-free distribution of clean, conditioned air to all points. Humidity is kept close to 50% at 72° F. Maximum gradient across the room is 1° F. Year-round range is 72°-75° F. This permits a standard reference for measurements and calibrations.

These **ReynoCoustic** panels are white-enameled. They are also supplied in natural-color aluminum.

A complete installation service is available. For name of nearest franchised acoustical applicator, call the Reynolds office listed under "Building Materials" in classified phone books of principal cities. For literature, write to Reynolds Metals Company, Building Products Division, 2015 South Ninth Street, Louisville 1, Kentucky.



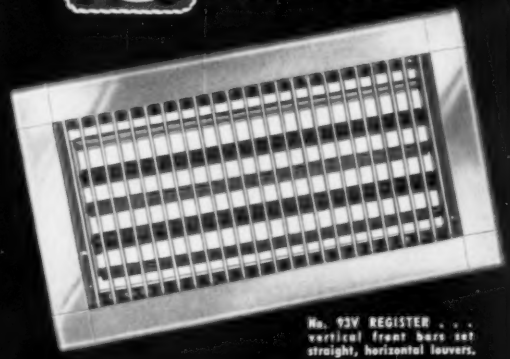
Typical ReynoCoustic application—panels and fiber glass backing rest on aluminum tees and angles. Marion Co. installation by Post Products, Inc., Boston, uses same method to suspend ceiling 3' below insulated roof. This space forms plenum for air conditioning system designed by Marion, engineered by Cobe & Foster, Inc., Manchester. System forces pre-filtered conditioned air into plenum at 24,000 cfm.

See "FRONTIER," Reynolds great dramatic series, Sundays, NBC-TV Network.

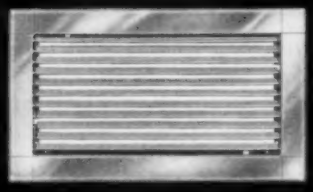
REYNOLDS ALUMINUM

BUILDING PRODUCTS

H&C FIXT-*AIRE*...



No. 93V REGISTER . . . vertical front bars set straight, horizontal louvers.



No. 94A GRILLE . . . horizontal face bars set at 22° angle for up or down deflection.

. . . return air registers and grilles designed to complement and harmonize with the TRIPL-AIRE line. Registers have a single bank of face bars in fixed vertical or horizontal position, and feature the same opposed louver construction for positive volume control found in TRIPL-AIRE units. Grilles are available with horizontal face bars set at 22° angle for up or down deflection where desired. One-piece sizes up to 36" x 30".

CONVENIENT CATALOG GIVES COMPLETE DETAILS AND ENGINEERING DATA . . .
Available from H&C Jobbers or write direct.

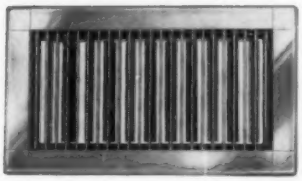


MEMO:
See The New H&C Line
That's Gaining Such
Unusual Acceptance For
Commercial Installations

H&C TRIPL-*AIRE*...



No. 92VHV — MULTI-DEFLECTION REGISTER. Vertical face bars, horizontal secondary bars, vertical louvers. Also available without valve No. 92VHO.



No. 92VOV — SINGLE DEFLECTION REGISTER with vertical face bars and louvers. Also available without valve, No. 92VOO.

. . . is gaining popularity, because wherever these units are installed they "do the job", and do it right. And that's because in this one basic line of 26 standard sizes there are 260 possible horizontal and vertical deflection combinations . . . designed to provide any air flow pattern required. No need to compromise when you use TRIPL-AIRE. The ten TRIPL-AIRE combinations are available in twenty-six standard sizes, up to 36" x 12", as well as in intermediate sizes, up to 36" x 36", to order. Front adjustments control face bars and louvers, and opposed louvers permit absolute volume control with equal air distribution over entire face. Top quality "Decorator Gray" enamel finish. H & C Jobbers have complete details.

HART & COOLEY MANUFACTURING CO.
DEPT. 1-AC, HOLLAND, MICHIGAN

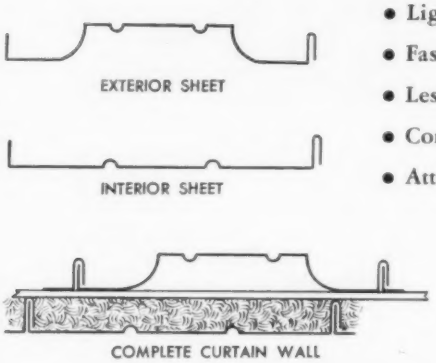
For rapid construction plus eye appeal . . .

specify NEW STRAN-STEEL CURTAIN WALL

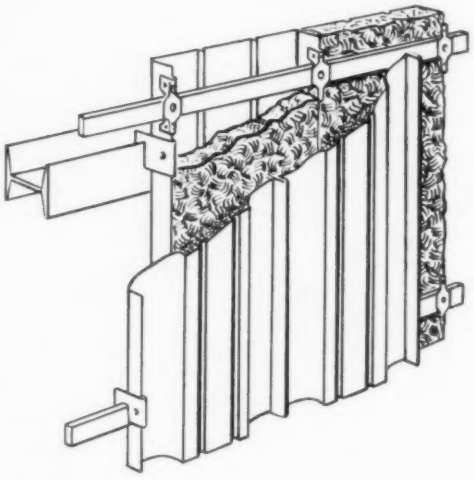


Now your buildings can have structural soundness as well as a fresh, attractive appearance with Stran-Steel curtain walls. Exclusive *Stran-Satin* finish gives you a satin-smooth, highly decorative surface and the added protection of a non-corrosive zinc coating. And, of course, the eye appeal of these *Stran-Satin* panels is combined with the low cost and extra strength that only steel can offer. For wall or fascia construction in all types of public buildings, specify Stran-Steel curtain wall.

Stran-Steel curtain wall panels offer these advantages . . .



- Light framework
- Fast, easy to assemble
- Less heat loss
- Complete wall insulation
- Attractive appearance



56-SS-148

Stran-Steel Corporation
Ecorse, Detroit 29, Michigan

☐ Please send me the new Stran-Steel Structural Systems catalog

☐ Please have your representative contact me

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Company_____

Street_____

City_____ Zone____ State____

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Ecorse, Detroit 29, Michigan • A Unit of
NATIONAL STEEL CORPORATION

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Cleveland 15, Ohio, 20950 Center Ridge Rd.
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427 miles of heating dependability

ASSURED FOR N.Y. STATE THRUWAY!

FIRST... By Sarcotherm Weather-Compensated Control Systems for all 40 Toll Interchanges

AND NOW... By Sarco Heating Specialties for 23 Service Areas

ON THE NEW YORK STATE THRUWAY, there are now 23 restaurant-gas service areas and 40 toll interchanges along the 427 miles of this great vehicular artery...from New York to Buffalo.

Each of these service areas and toll interchanges has its own heating plant. Therefore, dependability of equipment is of vital importance...for faulty operation or breakdowns would mean heating headaches and call-backs all along 427 miles of highway.

That is one of the principal reasons for the installation of Sarcotherm Weather-Compensated Control Systems for the hot water heating of *all* 40 toll interchanges...and of Sarco Steam Heating Specialties for *all* the 23 service areas now completed.

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SARCOTHERM

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4009-B



A BIG brushful

We can readily sympathize with you designers of today's structures! There are so many new materials, and such great ranges of application, the choice must often be difficult to make. It certainly applies to the field of surface finishes, with its galaxy of vinyl and alkyd paints, epoxy-based finishes and odorless finishes, to mention only a few of the newer products.

And yet, Devoe is confidently investing millions . . . in product research, in quality control, in technical methods . . . so that there will be an even wider choice of dependable products for your use as design tools!

Possibly you are not familiar with such outstanding developments as the new Devoe Wonder-Pruf Masonry Finish (Pat. Pending); Devoe Vinyl Wonder-Tones (the world's fastest indoor wall paint); and the wear-defying Devran (epoxy) finishes. We'll be glad to send you information on all of them.

Whatever your requirements in modern finishes, we at Devoe will be pleased to have your consideration.

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Front facade and side returns are Architectural Terra Cotta units sized from 24" x 24" to 24" x 33".

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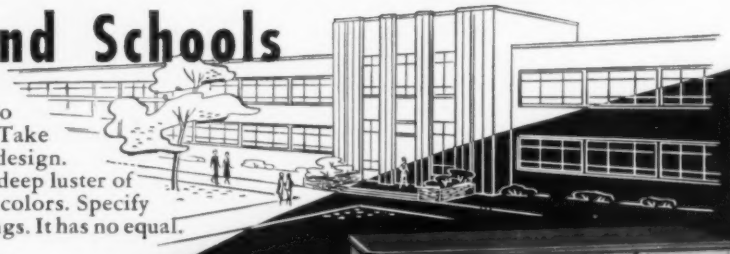
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F S T C

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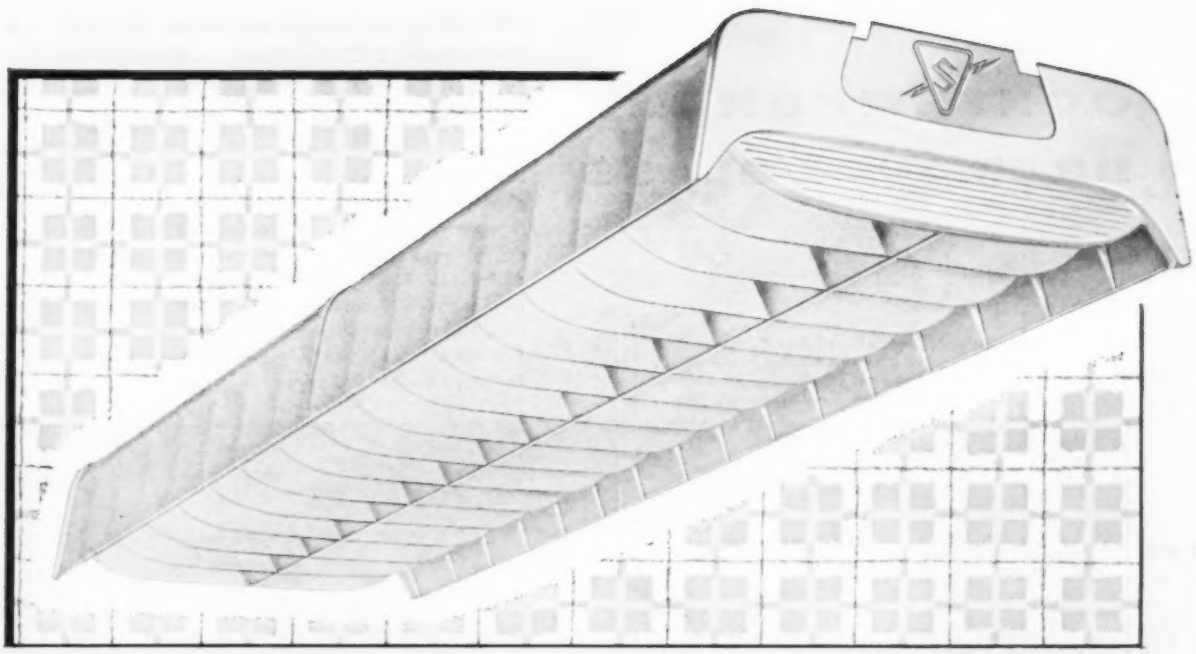
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The Scott... *by Sylvania*

Now in eye-rest green

to bring you new dimension in lighting design

TODAY; *color* makes the headline news in lighting design! And this new version of the famous Scott all-luminous fixture by Sylvania—with Eye-Rest Green color blended into its all-plastic shielding—adds the exciting new dimension of *color* to the traditional dimensions of *quality* and *quantity* of lighting.

Visualize the wide new range of creative design possibilities opened up to you! Eye-Rest Green is a cool, comfortable color; suggests an atmosphere of pleasant efficiency. It's a delight to behold—a comfortable sight-saver to work by—something new and different for you to recommend.

The Scott in Eye-Rest Green incorporates all the fine features of the original Scott fixture—high-illumination efficiency, strikingly clean design, and one-piece molded plastic shielding which is light-weight and easy to remove for cleaning and lamp changes.

The Scott in Eye-Rest Green provides ideal lighting for offices, libraries, sight-saving classrooms, close-work areas where comfortable lighting levels are to be maintained. Mail the coupon for complete specification data.

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Headliner of this famous Sylvania fixture line, has extremely high 89.8% illumination efficiency.

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- ☐ Please send me complete information on The Scott in Eye-Rest Green.
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CONTEMPORARY DRAMA *Stars* GLASS

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Structural Corrugated Glass Enhances Exterior . . . Screens Interior of College Building

Architect Richard J. Neutra has achieved an exterior treatment as dramatic as a Broadway hit with this striking installation of rhythmic, translucent Structural Corrugated glass. This modern material, rapidly gaining favor in contemporary structures, is an accomplished performer in daylighting. It effectively screens with light instead of darkness . . . floods protected areas with softened, diffused daylight. Translucent without being transparent, Structural Corrugated glass protects privacy beautifully. Practical as well as pretty, it lends itself especially well to today's designs and needs.



Make light a part of your plans. Specify translucent, light diffusing glass by Mississippi.

PROTECTION WINDOWS OF MISSISSIPPI GLASS PLAY PART IN RELIGIOUS BUILDING DESIGN

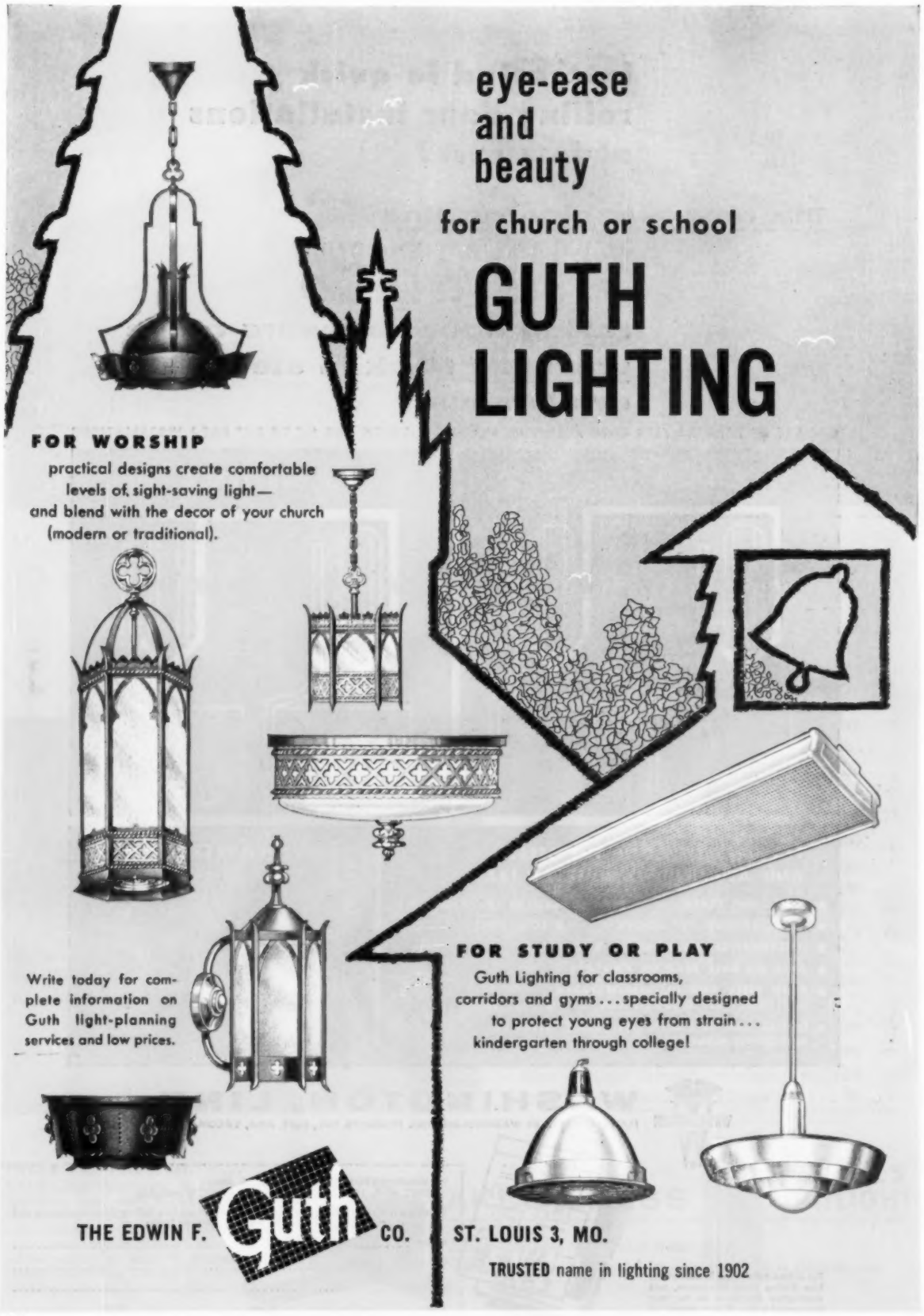
Outstanding examples of the use of Mississippi Glass for Protection Windows include:

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Our Lady of Lourdes, Queens Village, L. I.
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beauty
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practical designs create comfortable
levels of sight-saving light—
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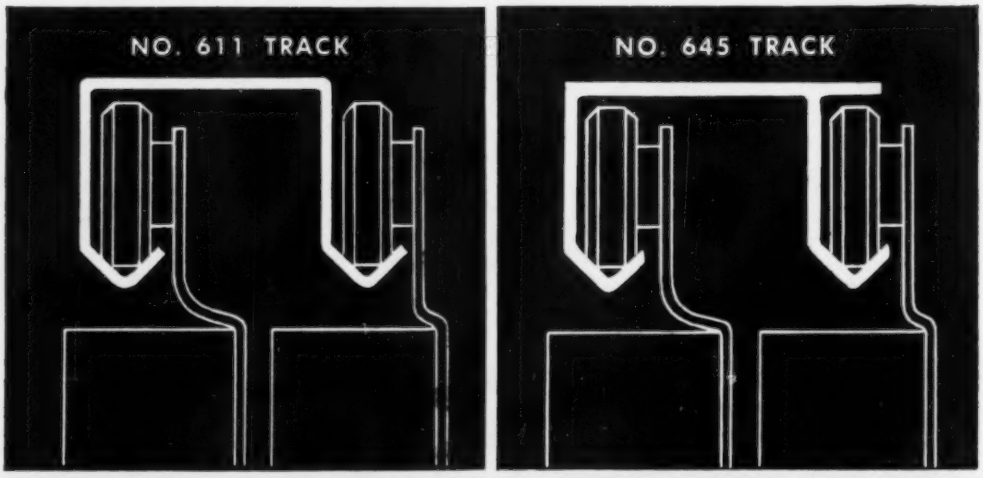
interested in quick rolling door installations at low cost?

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rolling door hardware offers universal track in steel or aluminum

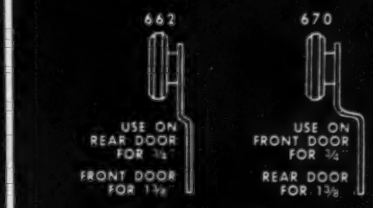
ONE SET OF HANGERS FITS BOTH ALUMINUM AND STEEL TRACK FOR 5/8" TO 1 3/8" DOOR INSTALLATIONS



FEATURES OF BOTH THE STEEL AND ALUMINUM UNIVERSAL TRACK

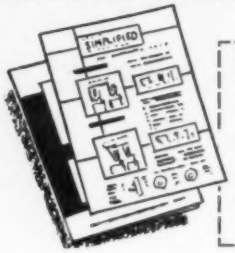
- ANTI-JUMP TRACK
- WILL HOLD 60 LB. DOORS
- SELF-CLEANING "V" GROVE
- LOW COST
- INTERCHANGEABLE HANGERS AND TRACK
- AXLE OR BALL BEARING HANGERS
- BOTH STEEL AND ALUMINUM TRACK ACCOMMODATE DOORS FROM 5/8" TO 1 3/8" THICK
- DOORS CAN BE TAKEN OFF TRACK WITHOUT REMOVING HANGERS

HANGERS



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MANUFACTURED BY WASHINGTON STEEL PRODUCTS, INC., DEPT. AR-6, TACOMA 2, WASHINGTON



For a free catalog on Washington® Line Rolling Door Hardware, and descriptive literature on the new *Universal* track, fill out coupon at right and mail to manufacturer.

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Gentlemen: Please send me catalog on Washington® Line Rolling Door Hardware, and complete information on the new *Universal* Track:

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CITY.....ZONE.....STATE.....



3,000,000 cu. ft. PACKAGE OF FILTERED DAYLIGHT

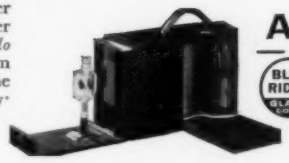


These great walls of glass in the Gunners Mate Training School at Great Lakes, Ill., were designed by Skidmore, Owings & Merrill. They are Frosted *Aklo** Heat Absorbing Glass.

You see *Aklo* widely used today in up-to-date factories, schools and other buildings because it reduces sun and sky brightness to cut down direct and reflected glare. And *Aklo* reduces transmission of the sun's radiant heat energy—as much as 44% when used in ¼" thickness. Its blue-green color even makes interiors *look* cooler.

For better seeing, greater comfort, better workmanship, better employe relations, filter daylight through translucent walls of Blue Ridge Frosted *Aklo* Glass. *®

Phone for this test. Your L·O·F Glass Distributor or Dealer can show you, with a radiometer demonstration kit, how much *Aklo* reduces sun glare and heat. Call him (he's listed under "Glass" in the yellow pages), or write to Libbey·Owens·Ford Glass Company, 608 Madison Avenue, Toledo 3, Ohio.



AKLO GLASS **FILTERS DAYLIGHT**

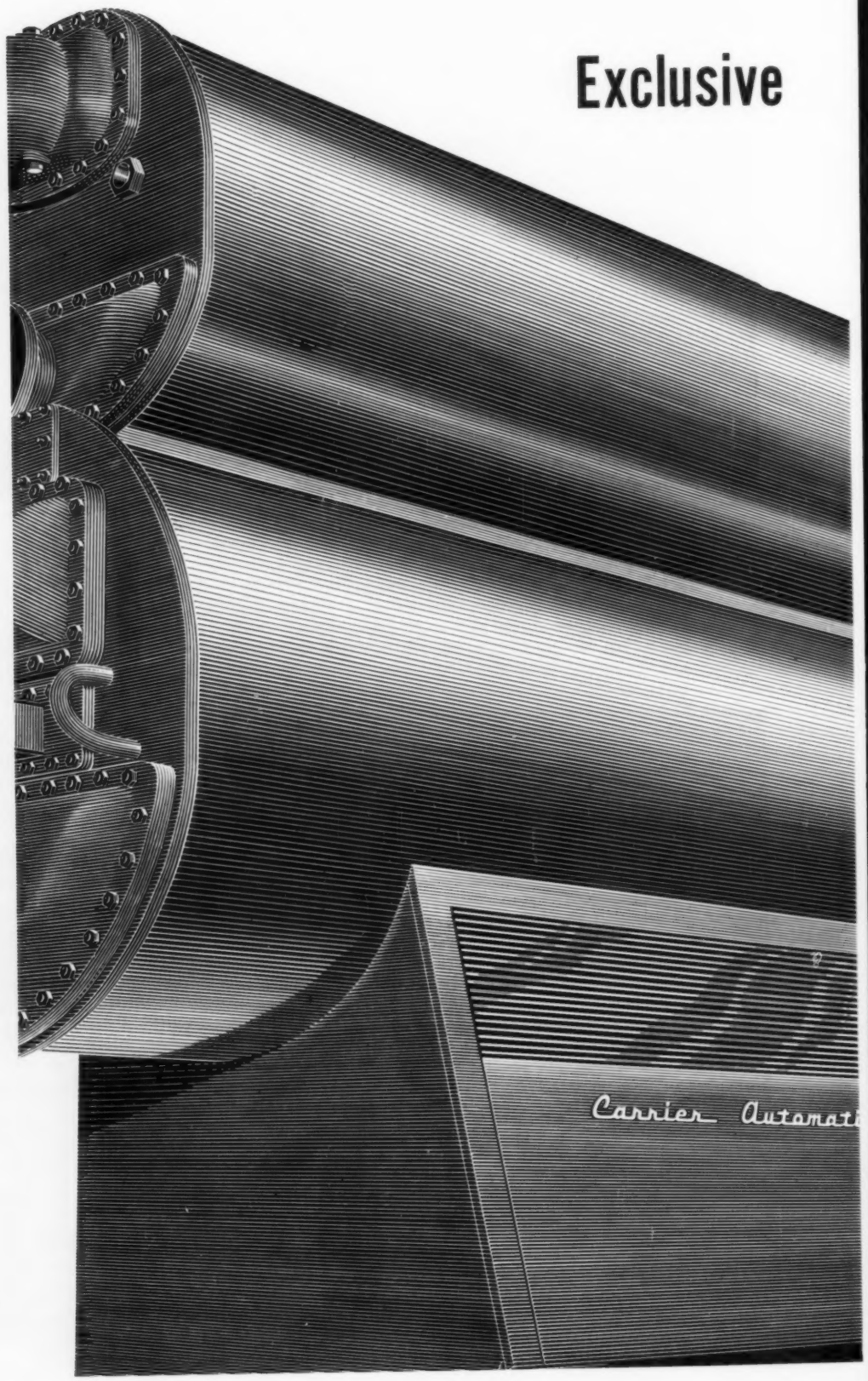
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made by Blue Ridge Glass Corp.
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LOF GLASS

Carrier again makes news

Exclusive



new refrigerating machine cools with steam

for big building air conditioning . . . for process cooling in industry . . .



From Carrier—first name in air conditioning—now comes a new absorption refrigerating machine.

IT COOLS WITH STEAM!

Cools with steam—and CUTS COSTS! Low-cost steam is the energy source. Electricity is needed only for small pumps and controls.

Cools with steam—and OPERATES AUTOMATICALLY! You push a single button in the morning and electronic controls take over. Push the button at night and the system shuts down. As simple as that! All day long the machine follows the rise and fall of the load without need for a highly trained operator.

Cools with steam—and SAVES SPACE! The Carrier Absorption Refrigeration Machine is so light you can locate it wherever you have space to spare. On the roof. In the basement. Anywhere in between. Installs easily. No heavy foundation needed.

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Cools with steam—and IT'S SAFE! Water is the refrigerant. A simple salt is the absorbent. Nothing could be safer.

Cools with steam—and it GIVES YOU CARRIER DEPENDABILITY! Designed to give reliable, trouble-free service. Around the clock. Around the seasons.

Find out about *all* the advantages of exclusive Carrier Automatic Absorption Refrigeration. For your copy of the 36-page Carrier booklet that answers all the questions you could ask, call the nearest Carrier office. Or write Carrier Corporation, Syracuse, New York.

Carrier

air conditioning
refrigeration
industrial heating

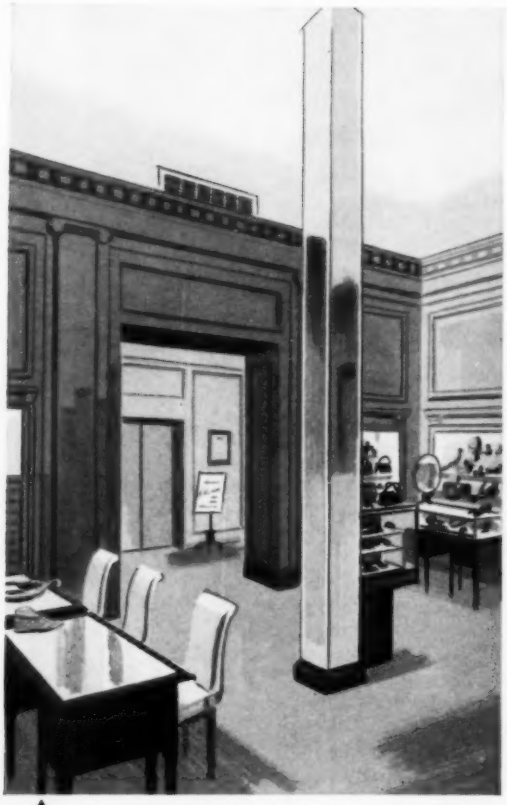
Carrier again makes news



▲ *Carrier Weathermakers without ductwork cool supermarket*

Carrier System Weathermaker ▼ *is ideal for large areas*





▲ *Carrier Zoning Weathermaker keeps comfort constant. Air-Cooled Weathermakers serve smaller stores.* ▼



Here are the best ways to air condition a supermarket, a shopping center, a department store

The odds are high that air conditioning will be a factor in any supermarket, shopping center or department store you're commissioned to do.

Your job: select the type of air conditioning that will best fit your plan and the client's requirements.

Here's where knowing the breadth of the Carrier line can save time for you and money for your clients. Carrier has *all* the ways to air condition *any* job. A few examples . . .

New Carrier Weathermaker* (top left). It's the self-contained air conditioner designed for lower installation costs. For small supermarkets, it gives excellent air conditioning results—at low cost. Exclusive design features give the new Weathermaker extreme flexibility of application.

Carrier System Weathermaker (bottom left). A particularly flexible type of year-round air conditioning designed for large areas in stores or buildings. It features a compact fan-coil unit with add-on sections to meet a variety of conditions. Installs behind the scenes, on the floor or hung from the ceiling.

Carrier Zoning Weathermaker (top right). You can plan "departmentalized" air conditioning which gives each area of the store or building the climate it orders. Carrier Zoning Weathermakers will keep comfort constant in as many as 14 different zones, regardless of differences or changes in heat loads.

Carrier Air-Cooled Weathermaker (bottom right). It air conditions without water. Location of unit is not dependent on water supply. Fewer connections mean simplified installation. Maintenance costs are appreciably lower than for water-cooled models that require water-saving devices.

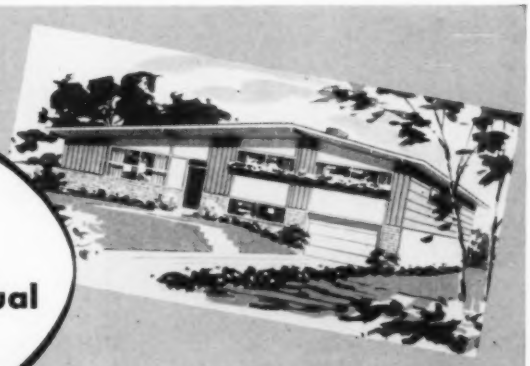
All Carrier equipment is engineered to the same high standard of quality. This means you can short-cut hours of selection by (1) using the Carrier line as your shopping guide and (2) comparing values. Get in touch with your Carrier Dealer or Branch Office—listed in the Classified Telephone Directory. Carrier Corporation, Syracuse, New York.

Carrier

air conditioning • refrigeration • industrial heating

AllianceWare

helps make possible these unusual homes at budget prices





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Architect: Howard O. Krasnoff
Builders: Fox-Bilt Homes, Inc.
Plumbing Contractor: National Plumbing & Heating Co.
Plumbing Wholesaler: H. B. Pancoast Co.



All Fox-Bilt Homes include these AllianceWare fixtures—*in color*—Champion Bathtub, Two Linda Lavatories and Two Closet Combinations



AllianceWare
PORCELAIN ON STEEL

Two Philadelphia builders—Bob and Dick Fox—have always dreamed of homes—priced within the reach of most families—that would contain many of the luxurious details generally found only in more expensive dwellings.

Today—in Plymouth Meeting Park—suburban Philadelphia—Fox-Bilt Homes, Inc. is erecting the first group of 315 unusual split-level homes containing many of the Fox Brothers' ideas.

Designed to sell at a low $14,850, these homes incorporate many luxury features . . . among them AllianceWare Champion bathtubs—two AllianceWare Linda lavatories and two closet combinations in each home. All AllianceWare fixtures are in color.

Fox Brothers chose AllianceWare, they tell us, because of AllianceWare's quality construction, decorator styling and wide color selection—sound reasons why they expect AllianceWare bathrooms to be an important sales feature of their unusual homes.

ALLIANCEWARE, INC. • Alliance, Ohio
Bathtubs • Lavatories • Closets • Sinks
Plants in Alliance, Ohio; Colton, California; Kilgore, Texas

...new efficiency—greater flexibility...

with metlwal movable partitions

installed in the NATIONAL BANK BUILDING

TOLEDO, OHIO



To obtain the ultimate in facilities and enjoy the latest in fashion and flexibility, *metlwal* was installed in the National Bank of Toledo. This modern method of dividing space has provided them with convenient, dignified floor plan arrangements at low cost.

Their advanced design gives *metlwal* movable partitions the beauty and well-grounded appearance of permanent installations—yet permits overnight floor-plan changes. *metlwals* are available in a wide selection of lifetime finishes, in decorator colors—and add a note of *quality* wherever they are installed.



EXTRA QUIET AND PRIVACY ASSURED...

Architect:
Horn & Rhinehart, Cleveland



NEW metlwal jr FREE-STANDING PARTITIONS

These revolutionary new *free-standing* partitions are the quick, low-cost answer to private, semi-private or railing-height divisions. Write for brochure.

Comprehensive test results on sound transmission loss are available to you. These tests were made by an independent research organization. Write for your copy.



metlwal

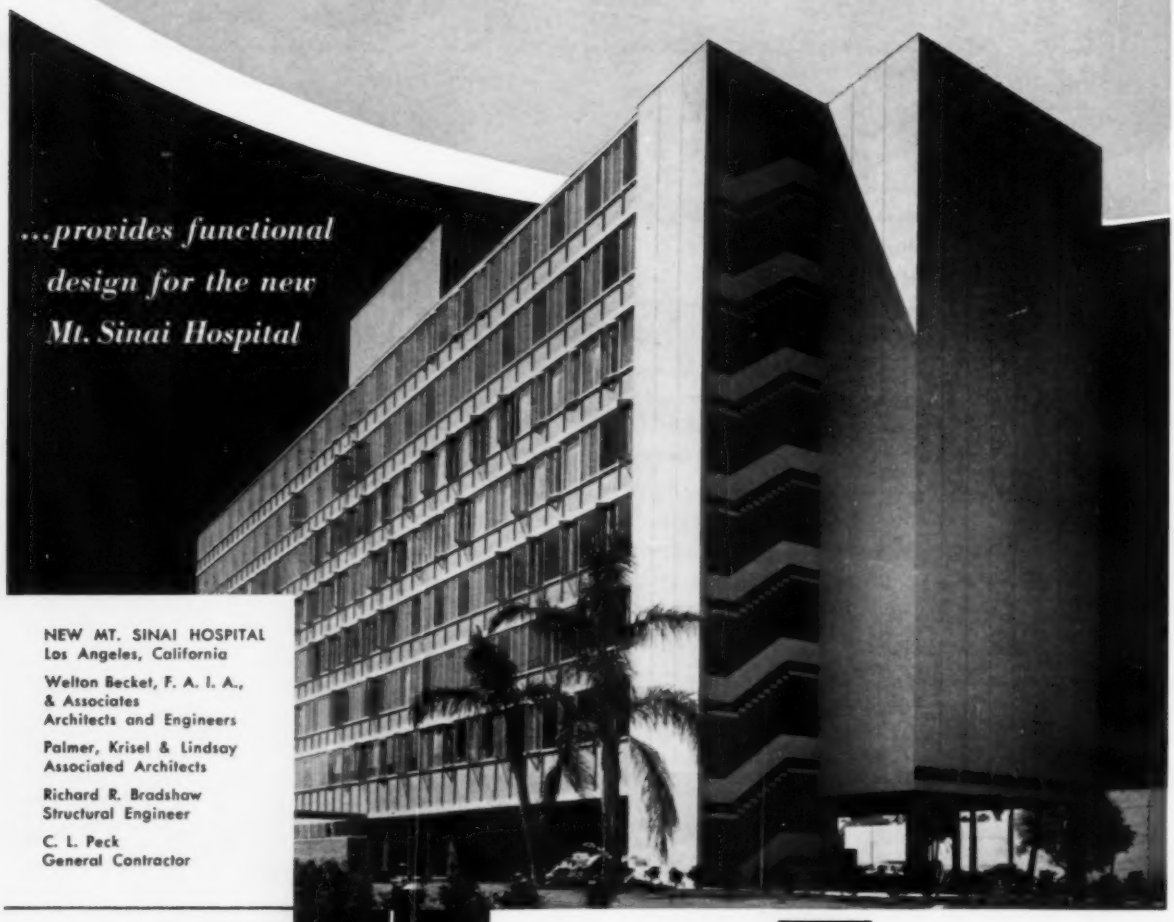
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REINFORCED CONCRETE
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. . . provides functional design for the new Mt. Sinai Hospital



NEW MT. SINAI HOSPITAL
Los Angeles, California

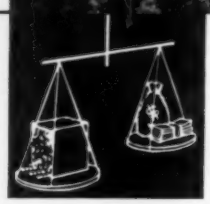
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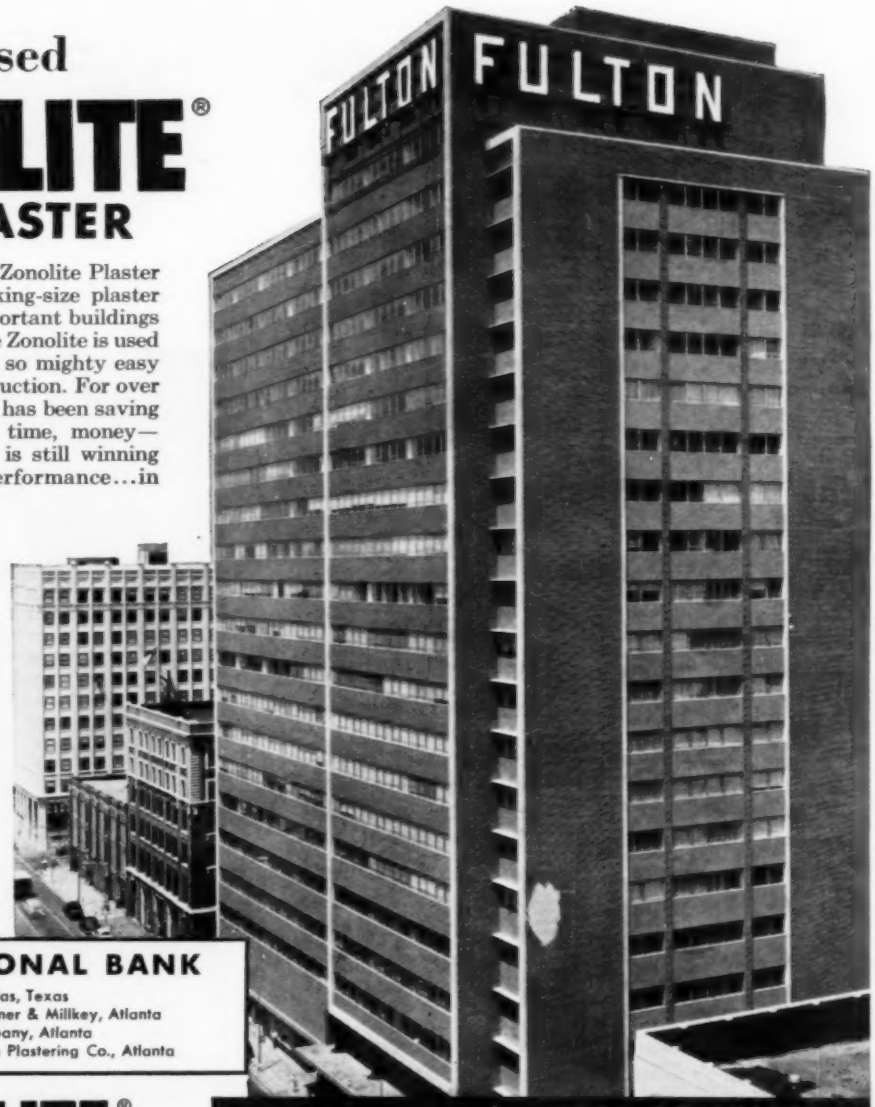
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...they used ZONOLITE®

time-tested PLASTER

Eighteen thousand bags of Zonolite Plaster Aggregate went into this king-size plaster job. It's *one more* of the important buildings throughout the nation where Zonolite is used because it is low-in-cost, is so mighty easy to handle and speeds construction. For over 20 years *time-tested* Zonolite has been saving architects and contractors time, money—*headaches!* Today, Zonolite is still winning the "blue-ribbons" for performance...in buildings like Los Angeles' famous Beverly Hilton Hotel...the just-completed headquarters building of Ford Motor Company in Dearborn, Michigan...the new Prudential, 41-story building on Chicago's skyline. Zonolite lightweight plaster earns the highest fireproofing rating...is low cost...handles *fast* by hand or machine...is always readily available from over 40 processing plants. Write for full particulars.



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Associate Arch.: Moscowitz, Wilner & Millkey, Atlanta
Gen. Contr.: Henry C. Beck Company, Atlanta
Plastering Contr.: E. L. Thompson Plastering Co., Atlanta

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Now—for maximum Roof Protection
Johns-Manville

Aquadam

(slag or smooth surfaced)

Built-Up Roofs*



Aquadam offers these important advantages:

- **Improved self-healing properties**
- **Superior weather resistance**
- **Superior resistance to cracking**
- **Greater kettle stability**
- **Exceptional adhesion—stronger bond**
- **Better resistance to water**
- **Excellent uniformity**

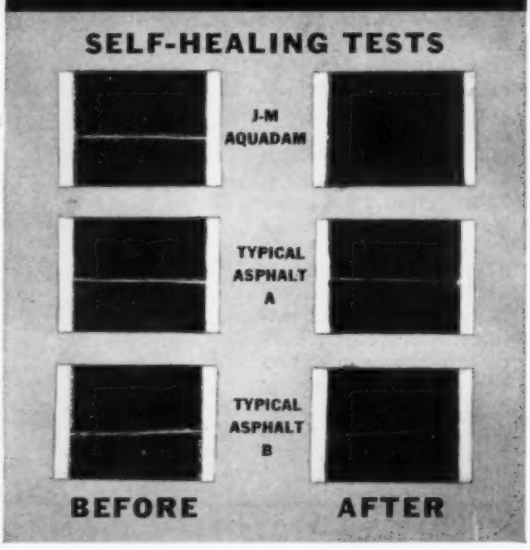
J-M Aquadam proved superior by actual test... helps provide longer roof life at no extra cost

J-M Aquadam Built-Up Roofs owe their proven superiority to the newly developed bituminous cementing agent Aquadam—which is used in the application of the roofing felts.

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Johns-Manville Aquadam is specifically designed to provide maximum built-up roof service for deck inclines from dead level to ½" per foot*.

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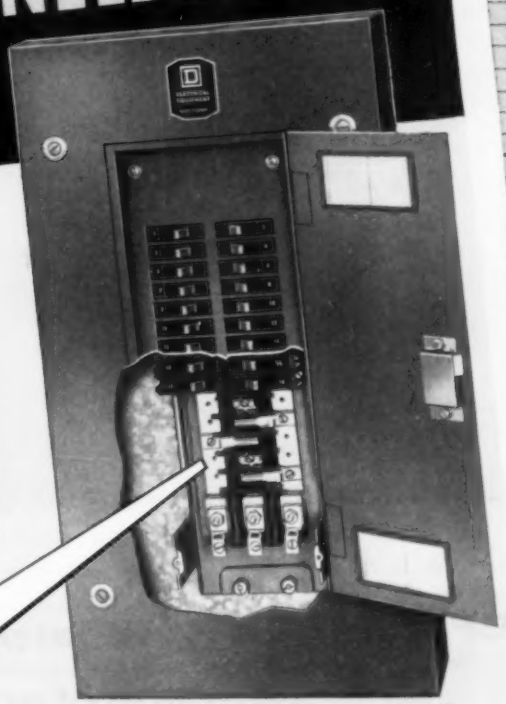
After exposure to normal summer roof temperatures, Aquadam (top) has completely resealed and repaired itself. Asphalt A (middle) and B (bottom) show little or no self-healing properties.

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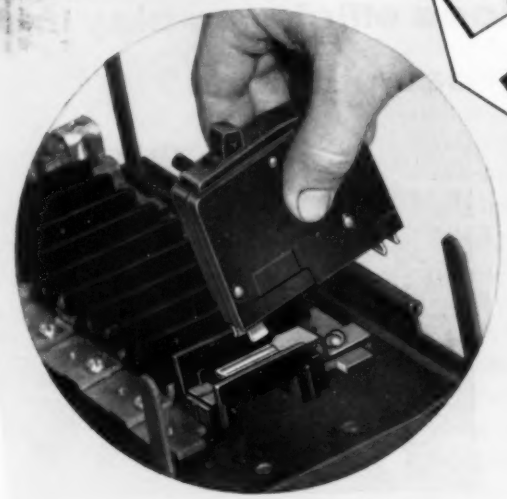
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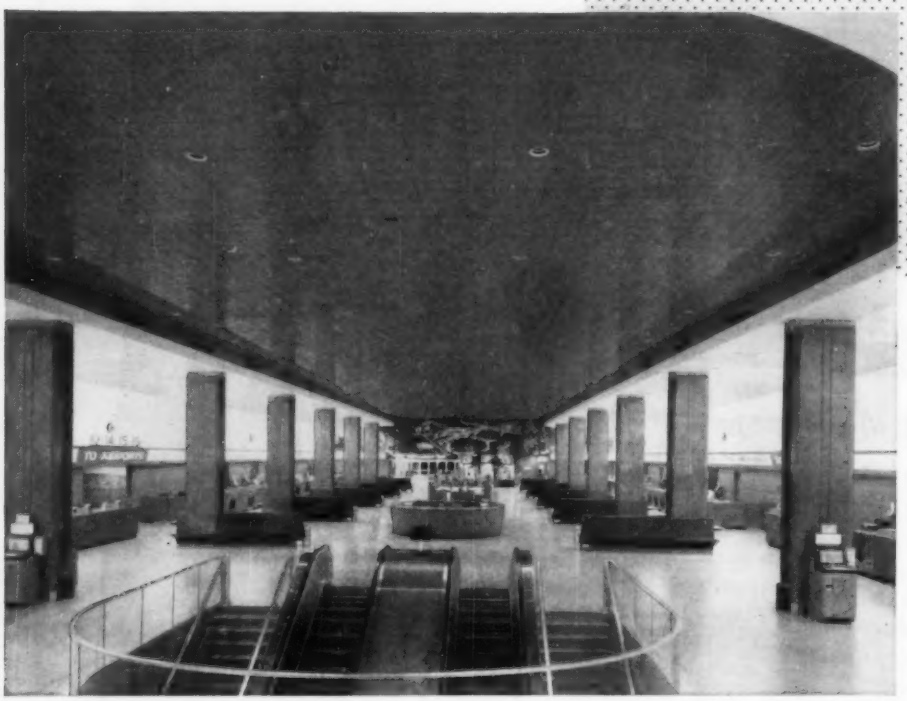
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Maximum noise quieting is essential to comfort in this modern air terminal. The constant clatter made by thousands of travelers is softened by an efficient sound-absorbing ceiling of Armstrong Arrestone.

. . . East Side Airlines Terminal, New York City, New York

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. . . KWTV Studios, Oklahoma City, Oklahoma

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THE PANEL

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G. HOLMES PERKINS
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ANTONIN RAYMOND
EARL H. REED
HENRY HOPE REED
JOHN W. ROOT
PAUL RUDOLPH
EERO SAARINEN
PAUL SCHWEIKHER
VINCENT J. SCULLY, JR.
G. E. KIDDER SMITH
EDWARD STEESE
HUGH STUBBINS
WALTER TAYLOR
WILLIAM W. WURSTER
MINORU YAMASAKI

The remainder of the panel returned anonymous ballots

1: OFFICE BUILDINGS

DURING THE YEAR PRECEDING the 100th anniversary of The American Institute of Architects, ARCHITECTURAL RECORD will present (grouped generally by building type) those buildings nominated by a panel of fifty architects and scholars as the most significant in the past one hundred years of architecture in America.

Each panel member was invited to name "about twenty buildings in existence today whose over-all significance, in your opinion, has been most important in the stage-by-stage development of our architecture."

Lists of nominations varied from a select six to an inclusive sixty and averaged twenty-five buildings per panel member. Ballot notations and accompanying letters indicated some lists were based largely on the intrinsic value of the buildings, others on the degree of influence the buildings have exerted or promised. Most lists seemed to balance these considerations and the collective balloting appears to reflect this balance.

In some respects the list is smaller than the editors and many of the panel members would have preferred. Any building that received a number of votes will be mentioned in its appropriate chapter of the series, but only those which were named by more than twenty per cent of the panel will be listed and pictured, except in the case of houses where the voting was so much more widely spread that a lower limit was used and a separate list established. The final list shows that, including ties, there are fourteen houses grouped in ten positions and thirty-six other buildings grouped in twenty positions; a total of fifty buildings.

The list must be acknowledged as sharing the shortcomings of all such pollings. However, at the very least its publication will provide a picture record of some important buildings not previously gathered together, while at best it may play a provocative role in focusing the kind of attention on our architectural heritage which will urge practical steps for the protection and preservation of all our meaningful architecture. Since most of the buildings in this list have been generously documented elsewhere, the form of this presentation will be largely that of a pictorial index.

It is not surprising that the work of Frank Lloyd Wright is represented most frequently or that multi-story office buildings are the dominant building type. In addition to the eleven shown here, there were many nominations of Sullivan's Prudential Building, Hood's McGraw-Hill, Polk's Hallidie, and Shrebe, Lamb & Harmon's Empire State.

Certainly in our tall office structures America has made for many decades one of its finest contributions to architecture. It is with a group of the best of these that we introduce this series.

John Knox Shear





WAINWRIGHT BUILDING, St. Louis
Louis Sullivan

CARSON PIRIE SCOTT STORE, Chicago
Louis Sullivan

ROCKEFELLER CENTER BUILDINGS, New York
Reinhard & Hofmeister; Corbett, Harrison & MacMurray; Hood & Fouilhoux

LEVER HOUSE, New York
Skidmore, Owings & Merrill

TRINITY CHURCH, Boston
H. H. Richardson

PHILADELPHIA SAVINGS FUND SOCIETY BUILDING, Philadelphia
Howe & Lescaze

GENERAL MOTORS TECHNICAL CENTER, Detroit
Saarinen & Saarinen

LAKE SHORE DRIVE APARTMENTS, Chicago
Mies van der Rohe

S. C. JOHNSON & SON, INC., ADMIN. BLDG., Racine
Frank Lloyd Wright

MONADNOCK BLOCK, Chicago
Burnham & Root

DAILY NEWS BUILDING, New York
Hood & Howells

TVA NORRIS DAM & POWER HOUSE, Tennessee
Roland Wank, Architect-in-charge

BOSTON PUBLIC LIBRARY, Boston
McKim, Mead & White

STOCK PAVILION, Raleigh
Nowicki & Deitrick

CHRISTIAN SCIENCE CHURCH, Berkeley
Bernard Maybeck

WOOLWORTH BUILDING, New York
Cass Gilbert

CROW ISLAND SCHOOL, Illinois
Saarinen & Saarinen, with Perkins, Wheeler & Will

MANUFACTURERS TRUST BUILDING, New York
Skidmore, Owings & Merrill

UNITY CHURCH, Oak Park
Frank Lloyd Wright

NEBRASKA STATE CAPITOL, Lincoln
Bertram G. Goodhue

S. C. JOHNSON & SON, INC., LABORATORY, Racine
Frank Lloyd Wright

UNITED NATIONS SECRETARIAT, New York
Wallace K. Harrison & Consultants

LINCOLN MEMORIAL, Washington
Henry Bacon

M.I.T. AUDITORIUM, Cambridge
Eero Saarinen

EQUITABLE BUILDING, Portland
Pietro Belluschi

ALLEGHENY COUNTY BUILDINGS, Pittsburgh
H. H. Richardson

UNIVERSITY CLUB, New York
McKim, Mead & White

CRANBROOK SCHOOLS, Michigan
Eliel Saarinen

MINERALS & METALS RESEARCH BLDG., I.I.T., Chicago
Mies van der Rohe

ALCOA BUILDING, Pittsburgh
Harrison & Abramovitz

MUSEUM OF MODERN ART, New York
Goodwin & Stone

PENNSYLVANIA STATION, New York
McKim, Mead & White

EXPERIMENTAL SCHOOL, Los Angeles
Richard Neutra

DODGE TRUCK PLANT, Detroit
Albert Kahn

100 MEMORIAL DRIVE APARTMENTS, Cambridge
Kennedy, Koch, DeMare, Rapson & Brown

CENTRAL LUTHERAN CHURCH, Portland
Pietro Belluschi

HOUSES

F. C. ROBIE, Chicago
Frank Lloyd Wright

E. J. KAUFMANN, Pennsylvania
Frank Lloyd Wright

TALIESIN WEST, Arizona
Frank Lloyd Wright

HENRY VILLARD, New York
McKim, Mead & White

WATTS SHERMAN, Newport
H. H. Richardson

AVERY COONLEY, Illinois
Frank Lloyd Wright

W. W. WILLITTS, Illinois
Frank Lloyd Wright

D. R. GAMBLE, Pasadena
Greene and Greene

PHILIP JOHNSON, New Canaan
Philip Johnson

WALKER GUEST HOUSE, Florida
Paul Rudolph

ELLEN SCRIPPS, La Jolla
Irving Gill

WESTON HAVENS, Berkeley
Harwell Hamilton Harris

LOVELL "HEALTH HOUSE", Los Angeles
Richard Neutra

EDITH FARNSWORTH, Chicago
Mies van der Rohe

Wainwright Building, St. Louis, 1890–91, Louis Sullivan. (Tied for first)

"The Wainwright Building turns out more and more to be the prototype of all contemporary office buildings. In the Wainwright Building, Sullivan imposed his artistic will on a pile of identical rooms in such a skillful manner that it can still be studied by the practicing architect today." ***Philip Johnson***

"In the Wainwright Building, Sullivan gave esthetic form — for the first time in America — to the comparatively new problem of the tall office building. This form, though creative rather than eclectic, was essentially classical. With the age-old qualities of mass, stability, clarity, and finiteness embodied in a new problem, Sullivan created a modern classic. The Wainwright Building stands today as an old masterpiece of American architecture." ***Hugh Morrison***

"Today we can begin to understand and appreciate the beautiful uncommon sense of the Wainwright Building; here, in 1891 St. Louis — amid eclectic confusion — Sullivan built the first post-Victorian structure using the steel frame, an event as significant to architecture as was Cezanne's work of the same time to painting."
Buford Pickens



Hedrich-Blessing (also opposite page)

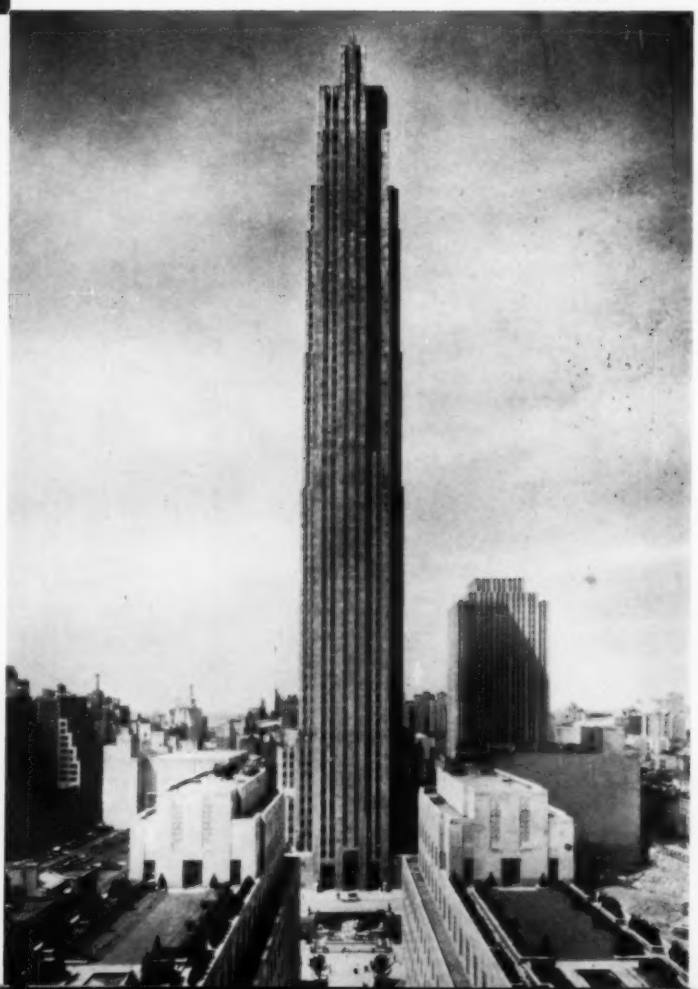


Hedrich-Blessing

***Carson Pirie Scott Store, Chicago, 1899–1904, Louis Sullivan.* (*Tied for first*)**

"The Carson Pirie Scott Store was Sullivan's greatest building. It was abuilding on New Year's Eve of the 20th century, and every line and surface foretold the esthetic quality of the finest buildings of the next half-century. Never, perhaps, has steel-frame structure been better expressed, but far beyond that, the building had the restless dynamic sweep, the stressed-skin smoothness, the machine-like clarity of today. Esthetically, it is far closer to the fragile, rectilinear precision of the Manufacturers Trust Building in New York than it is to the stable classicism of the Wainwright Building. In this building, Sullivan grasped the mood and tempo of the twentieth century. September 3, this year, will be the centennial of his birth. No other building has so valid a claim as the masterpiece of a century of American architecture." ***Hugh Morrison***

Wurts Brothers



***Rockefeller Center Buildings, New York, 1932–40, Reinhard & Hofmeister; Corbett, Harrison & MacMurray; Hood & Fouilhoux.* (*Second*)**

"The unity of steel and civic order in the Rockefeller Center Buildings is more prescient of great achievement in American architecture than are the most sensitive harmonies of esthetic surface and metallic frame." ***Joseph Hudnut***

"A new approach to the 'large building' program. In fact, a two or three story block below ground, from which rise several towers of varying heights. The group thus benefits from the services and appurtenances of a single building, and benefits also from the light, air and harmonious massing of a group of buildings." ***Leopold Arnaud***



Wurts Brothers

Lever House, New York, 1952, Skidmore, Owings & Merrill. (Third)

"After several decades of clouded and misty architecture, I find it refreshing to see the clear glass shaft of Lever House rising in the otherwise drab atmosphere. And I hope the free area at the base of the building is a forerunner of more open spaces which help to reduce the tension of our daily life. In a way, the Lever House reflects the product of the Company and so the great areas of glass are here justified. Even so, all in all, it is a clear and pleasing silhouette in our city of towers."

Maurice Lavanoux

"I am particularly impressed by the Rockefeller Center Buildings and by Lever House, not so much because of their architecture — fine though that may be — but because their land usage and building relationships are so significant. The space relation of one building to a neighbor and each to the land on which it stands is far too little considered in the United States. These two New York examples shine as beacons in this respect."

G. E. Kidder Smith

Philadelphia Savings Fund Society Building, Philadelphia, 1932, Howe & Lescaze. (Fifth)

"In 1932 George Howe and the directors of this bank had the courage to create a *purely* modern building, about which even Le Corbusier has said that it was the finest executed and maintained building in the modern style. Here the entire profession was shown the kind of standard to which it is just now, 25 years later, beginning to live up."

Philip Johnson

"The Philadelphia Savings Fund Society Building is historically significant as the first American skyscraper to reflect — in its direct statement of cantilevered floors and in its "cubistic" shapes — the influence of the so-called international style. It is esthetically outstanding for the beautiful harmony of form and space that transcends and enhances the sheer commercial utility of the building, even while expressing it."

Donald D. Egbert

"Historically one of the earlier solutions of 'contemporary' form used for tall building design. Despite its age, it still holds its place among our more modern skyscrapers."

Leopold Arnaud





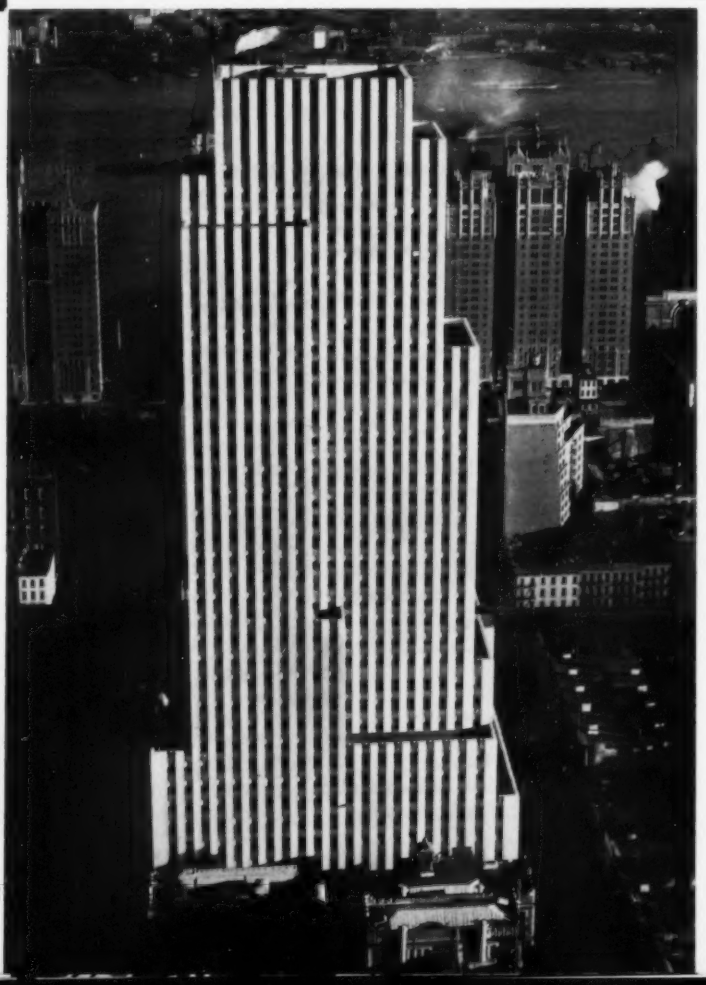
Hedrich-Blessing

Monadnock Block, Chicago, 1891, Burnham and Root. (Tied for ninth)

"John Root's Monadnock Block is a truly transitional landmark for, at the same time it represents the ultimate and final potentials of masonry construction for tall buildings, it also refines in form the new post-Victorian spirit of the times which Richardson had introduced to Chicago and which Sullivan perfected. Although its plain and geometrical form may have been suggested by economy, this building shows that Root was one of the first Chicago architects to realize the esthetic implications of the form." ***Buford Pickens***

"The original portion of this building is a paradox in that it is, on the one hand, the final, magnificent gesture and achievement of centuries old self-supporting masonry, while on the other hand, its visual and geometric design anticipates the clean direct simplicity of the contemporary in its abandonment of the trivia of eclectic stylism." ***Walter A. Taylor***

Joseph W. Molitor



Daily News Building, New York, 1930, Hood & Howells. (Tied for ninth)

"One of New York's most impressive tall buildings. Not only beautiful as an abstract composition, but successful also as an expression of multiple-tenant occupancy (floor space rented by the sq ft); as compared, for example, with the McGraw Hill Building for single-tenant occupancy (floors occupied by departments of a single organization)." ***Leopold Arnaud***



Joseph W. Molitor

Woolworth Building, New York, 1910–13, Cass Gilbert. (Tied for twelfth)

"My first job in the United States was with Cass Gilbert where I had the privilege to work on the Woolworth Building from beginning to end. Mr. Gilbert had the genius and ability to exploit the ambition of Woolworth toward the realization of a monumental architectural creation, without precedent. There is credit due to the Chief of Design, Thomas Johnson, and, above all, to the Engineer, Gunwald Aus. When the building was up in steel it was beautiful even from the esthetic point of view of the most exacting of our times."

Antonin Raymond

"This building, which held for a short time the world championship for height of habitable structure, seems to have achieved more acclaim by the public than by the profession. It is the first skyscraper to approach the lightness of scale and expression of the bird-cage essence of the steel frame. The Woolworth with the minimal masonry protection required at that time is therefore a direct progenitor of some of our current solutions."

Walter A. Taylor



Joseph W. Molitor

United Nations Secretariat, New York, 1950, W. K. Harrison & Consultants. (Tied for fourteenth)

"It seems to me that the Secretariat of the United Nations group, despite our short time perspective, deserves to join any selection of distinguished American buildings. It is most difficult to be significant on order, yet this structure was required to symbolize architecturally the vigorous magnificence of a new world-wide agreement. Simultaneously it had to house efficiently some 3400 office workers; and its design was to be the result of agreement among a group of architects appointed by various nations. That the Secretariat has met these staggering requirements with such success is surely remarkable and encouraging. For the building is monumental, practical, and beautiful in a purely 20th century manner."

Leslie Cheek, Jr.



Pictorial Services, by Sturtevan

Equitable Building, Portland, 1948, Pietro Belluschi. (Sixteenth)

"As an early landmark in the development of the now ubiquitous curtain wall, Belluschi's Equitable Building of 1948 gave the first three-dimensional expression to a similar scheme which he had envisioned as early as 1943. Willis Polk's glass-walled Hallidie Building of 1918 in San Francisco preceded it by 30 years and yet little of significance came in between. Today, and in some of the harsher climates, we reduce glass areas to reduce heat loads on air conditioning systems, producing a very different appearing curtain, as in the more recent Alcoa Building, but the beauty of the Equitable is apparent in its large glass areas which merely fill the spaces between the visually defined structural members. The all-glass box may at first glance be more beautiful, but one finally seeks a visual module which can be related to the human figure and to human activity."

Alan Burnham

Photo Associates



Alcoa Building, Pittsburgh, 1952, Harrison and Abramovitz. (Eighteenth)

"Watching the Alcoa Building going up in Pittsburgh, it was difficult to avoid the speculation that here — in this light and lightly clad structure — we had reached another milestone of influence in building development. Now, after five years of vigorous and widespread curtain wall activity, not only the existence of that influence can be affirmed, but constructive and expressive values inherent in the building itself become more and more apparent."

John Knox Shear

The ARCHITECT and the ENGINEERS

By Frank L. Whitney*

IF ONE LISTENS to some current wailing, "the architect" is a lonely spirit in a world that now worships at the feet of "the engineer." As an architect who has long practiced in the industrial world, surrounded usually by engineers, I should like to inject a cheerful note into the current flow of rhetoric. I don't think the architect is "lost"; I am convinced he has a glorious opportunity.

I have thoroughly enjoyed myself in the land of engineers. And, what is perhaps more to the point, I don't seem aware of any lack of architectural stimulus, or lack of appreciation for the viewpoint of an architect.

Dean Hudnut in a recent essay † expressed concern for the survival of art in architecture when placed in the hands of the engineer-architect. He seemed not as greatly concerned with the profession of architecture as with the probability that the art of architecture would shortly become identical with the art of the structural engineer. If such an eventuality should develop, then indeed we should address our attention to the survival of architecture as a profession. For if architecture should become identical with engineering, then the chances are good that the profession would lose its identity. On the other hand if, with advance of the technical society, there remains some desire for artistic expression in building, an area of usefulness will thus be created even for those who would devote themselves solely to artistic contemplation, if that is what some architects want to do.

Yet if architecture as a profession were to confine its interest to esthetics in structures, it would inevitably lose its identity as a profession. If, as Dean Hudnut seems to fear, the architect becomes an artist without an art, then there is little hope that he can survive as an independent professional.

Now I have no quarrel with the esthetic side of architecture, but I should like to see some emphasis on other assets of the architectural profession. Surely those architects who would defend their position in technical society on the grounds of esthetics alone are picking up their weapons at the wrong end, and pointing them in the wrong direction. If modern architecture is in truth a functional architecture, we shall expect to find our expression coming logically and inevitably from a truly functional approach, and if we start on that basis we shall find our weapons powerful.

One need only observe that while certain architects are sitting on the outside grumbling, others are busily enjoying the world of technology, hiring all the draftsmen and engineers they can steal from one another, adding new junior partners, reveling in everything but the income tax. Speak to them about engineers and they will only ask where they can find more they can hire.

My theme then is that the world of technology needs the architect's kind of thinking, wants it, uses it, demands it. The industrial world asks only that the architect be oriented to the task in hand, that he approach that task with a truly functional attitude, and exert his leadership in the "master builder" fashion. Any architect capable of leadership in industrial matters will find his talents in great demand. And when he then asserts himself on the esthetic side, the industrial world will be glad to follow his leadership there.

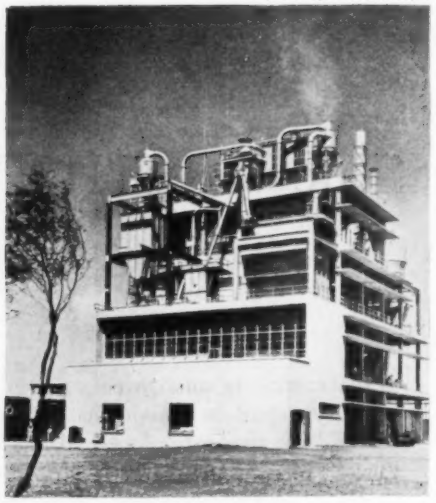
There has been a great deal of academic discussion of the architect's position as "master builder," and lamentations that he has lost it. Any architect who develops tendencies toward an inferiority complex might only look in the direction of Detroit, where the automotive industry has leaned heavily on architects to plan and develop its plant facilities. Do not protest that the great firms there which do automobile plants are aggregations of architects and engineers, or even that engineers may outnumber architects in those offices. The leadership in planning is predominantly architectural; the engineering specialties are highly developed and nicely regimented, but the integral thinking of the architect's kind is well in command. It is fitting to remark here that in no other manufacturing field have greater strides been made toward efficient production.

* *The author, vice-president of Walter Kidde Constructors, Inc., is licensed to practice architecture in 14 states although he is now practicing as an engineer. Through the war he was doing industrial work for H. K. Ferguson Company, where his most notable project was the Corn Products Refining plant in Corpus Christi (page 156). In charge of the design for Walter Kidde, he is continuing with industrial projects, among them the new manufacturing center for Johnson & Johnson (page 158).*

† *"The Engineer's Aesthetics" by Joseph Hudnut,* ARCHITECTURAL RECORD, *Jan. 1956.*



All photos by Elwood M. Payne



Buildings or machines. The Corn Products Refining Company's plant in Corpus Christi, Texas, is at least an illustration of what can happen when an architect puts together the separate efforts of a great group of process engineers and develops from a complex of technical requirements a unified concept of the whole. The client requested that the plant be visually stimulating; it was already obvious that the housing facility was not to compromise any process necessities, for any reason, least of all for any architectural precedents. This plant was the only industrial group included in "Postwar Architecture: USA" published some years ago by the Museum of Modern Art (see ARCHITECTURAL RECORD, *Nov., 1949).*



What has been done in Detroit has been done also, if not so spectacularly, in every industrial center in the country. Many architectural firms have been willing and able to fit into the world of technology, and generally speaking they are the biggest and busiest firms in the land. They plan industrial plants, industrial and scientific laboratories, office buildings, warehouses, atomic energy laboratories and installations, power plants, transportation facilities; they also find time and talent for hospitals, schools, housing. If their collective temperament does not always lead them to daring innovations in form or to individual flights of genius, well, that is an esthetic debate, and I shall leave it to Dean Hudnut.

I shall insist, however, that the technological arena holds plenty of excitement and challenge, plenty of scope for design inventiveness and imagination. The opportunity for the architect grows larger, not smaller, as he penetrates closer toward the center of technical activity.

If contact with engineers seems to dilute the architect's ardor, we cannot blame the engineer for that. I might even assert that nobody likes a good architectural result quite as well as an engineer. Engineers will fight lustily for a chance to do their own work well, and they may indulge in some hazing of tyros in their esoteric world. But the fact is they rarely exhibit temperamental tendencies, and are perfectly willing to follow capable leadership. Any architect willing and able to deal with engineers on their own grounds should find the balance of advantage on his side.

Perhaps the key word above is "willing." What I am emphasizing is that there is no question of the architect's ability to get along in technical society, providing only that he is willing to take on its obligations. If the architect (an individual architect) thinks of technology only as a new and stimulating inspiration for esthetic innovation then his talk of "function" is only idle chatter to the industrial client. If that same architect should decide to dive into technology and get wet all over, he would find the water really inviting. And he might find that as a free-style swimmer he has talents or training that most engineers would envy.

A mistake in all such discussions as this is to talk of "the architect" and compare him with "the engineer." In truth there is no such thing as "the engineer." If there is in truth any such entity as "the architect," there has been great difficulty in describing him.

It is interesting to note that the dictionary definition of architect, as well as the definition provided by the American Institute of Architects, is more akin to the ancient concept of the architect's role than to that advanced today by some of the profession's most vocal spokesmen. An architect is "a person skilled in, or a professional student of architecture; one who designs and oversees the construction of buildings." Architecture is: "1. Art or science of building, especially houses, churches, bridges, etc. . ."

The key phrase, for my purposes, is the 'art or science of building." The first definition for "art" is: "skill in performance, acquired by experience, study or observation; knack."

It is my thesis that the use of the word "art" in the definition is not to mean that the basis for architecture is an esthetic one. Thus the architect in years gone by took his professional status more from the fact that he had made building a profession, through his specialized knowledge, than that his was an art in the same sense that sculpture, painting or music is an art.

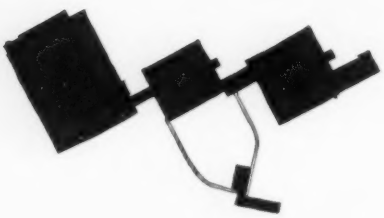
Even the more modern A.I.A. definition of the architect fails to recognize esthetics either as a qualification for or an ingredient in (which certainly it should be when in proper focus) the practice of architecture. Here is the A.I.A. definition: "A person with a knowledge of and skilled in the planning and design of construction and its environment, particularly in regard to its suitability to human utilization; one authorized to use the title 'architect' by virtue of having complied with pertinent state or territorial regulations; one having technical training and ability to supervise construction."

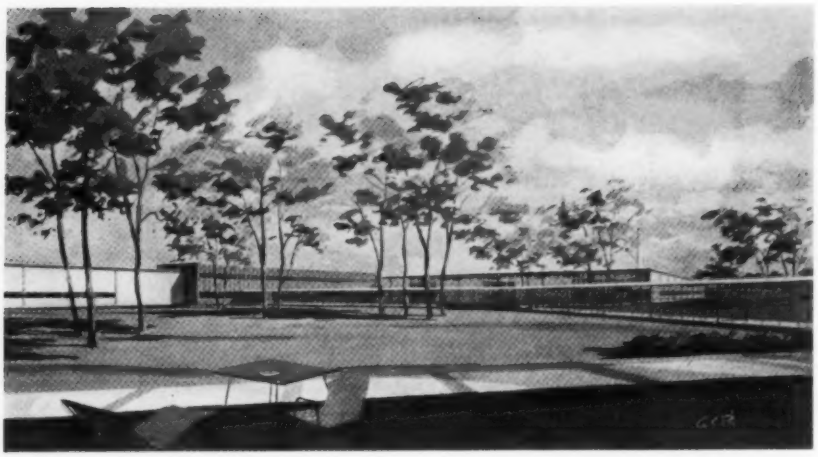
The function of the "master builder" is a logical function now as in the past — hundreds or thousands of years ago. There is need for someone to see a construction job in its entirety, rather than in piecemeal segments. In fact, the need is more acute today than ever before, if only for the reason that scope has been enlarged so broadly.

In today's technological race for survival, there has been a tendency, consciously or unconsciously, to make a semi-deity of the engineer. The application of engineering principles is looked to in our society to provide every solution to every problem. According to popular belief, the engineer appears as the well-rounded individual with professional training in all that is complex, the fount from which springs the solution to every technical problem.

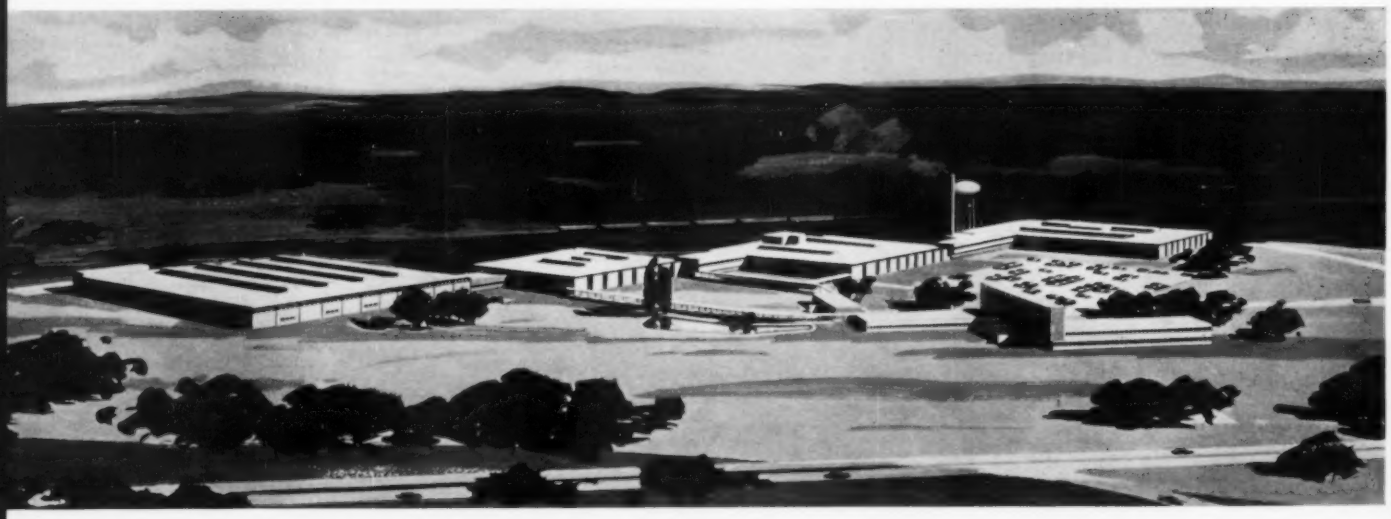
But an engineer is a specialist. The nearer he approaches the zenith of his profession, the more specialized he becomes. The graduate mechanical engineer has a general mechanical knowledge when he begins his career. As he advances, his usual pattern is to concentrate his efforts on a more limited field: thus from his broad field in mechanical engineering, he becomes a designer of process piping systems. A next logical advancement is that he becomes a specialist in the design of instrumentation or controls. Always it should be remembered that the engineering profession is so constituted, with its immense attention to minute detail, that the engineer who moves forward does so in a rather well-defined and limited field.

It is incongruous therefore to say that the architect must work with the engineer. Actually, he and his group must work with a group of engineers — conceivably as many as a dozen different individuals. Only in the rarest cases would an engineer possess the qualifications that would enable him to work in more than a single engineering discipline. More likely, the architect will find himself working with a civil engineer,





The new manufacturing center for Johnson & Johnson at North Brunswick, N. J. (ARCHITECTURAL RECORD, *Feb., 1956*), *is a current project of Walter Kidde Constructors, Inc. Here study of manufacturing needs and materials handling problems changed what was originally conceived as a huge square pancake into a series of individual buildings, linked together by factory office units, joined also by a drag-line conveyor. The total concept theory here contributed several operating advantages — efficiency, flexibility, expansibility, autonomy of divisions, comprehensible scale — plus a happier esthetic result.*



a structural engineer, a mechanical engineer and an electrical engineer on even the simplest building job. On a more complex assignment, he is likely to encounter chemical engineers and such other specialists as engineers whose principal activity is heat exchange, instrumentation, or electronics. He may even encounter engineers with such obviously limited fields as vibration or corrosion.

There are of course engineers, many of them, who have developed their activities along administrative lines, and are doing an outstanding job of coordinating the efforts of the various engineering functions. The point here is that if this administrative or coordinating activity is in connection with the development of a building program, the engineer, regardless of the nature of the diploma or professional license hanging on his wall, is in truth performing the functions of architecture.

If we were to let the engineer assume the technical and, consequently, the dominating aspects of architecture, we would be faced with another dilemma. We should have to find the proper engineer. Mr. Hudnut suggests the structural engineer. The engineering societies would not agree to this. With the increasing complexities of mechanical equipment and mechanical services now going into our present-day structures, we can be certain that the mechanical engineer would insist upon having his say. And with the advance of electronics and its influence on our daily lives, new voices are bound to be heard.

Thus it is obvious that we have been using the word "engineer" loosely, for there is no single engineering science which can within itself pick up all the necessary aspects of a structure and coordinate them into a building entity. Basically, the engineering sciences do not interest themselves in entities or esthetics. The coordination of the esthetic concept of a structure with the application of scientific principles is not, nor ever has been, the interest of any of the engineering societies.

There is no single branch of the engineering professions which is presently devoted to fundamental planning. One need only look at the various curricula of the many engineering schools to substantiate this fact. The industrial engineer, for example, is trained to the end that he may lay out and develop manufacturing and production units. Yet a glance at any of the textbooks used in his education will demonstrate how little consideration is given to a fundamental economic relationship of structure and equipment. Any assumption that the engineering mind has suddenly become well-rounded is entirely false. There is no intent here to disparage the engineering mind. Any competent professional of any engineering science will agree that many of the various aspects of gracious living are somewhat neglected in the acquisition of a technical education. Conversely, it seems this also may be true of architects.

Thus it would appear that within the professional practice of architecture lies the opportunity of the coordination of all the sciences and skills required in the development of a piece of architecture. Why, then, should the architect relinquish so many of the technical and scientific aspects of his profession when he of all men must know that one cannot successfully separate the architectural design of a structure from its technical and engineering aspects?

"If the architect is to survive," he must again assert his leadership in all those phases which he has with such seeming freedom relinquished to the engineer. He must rekindle an interest and understanding of the sciences.

Actually, there is nothing foreign or incompatible with the desire for scientific interest and the practice of architecture. One can be an artist and still know arithmetic, and many of our outstanding architects are also outstanding engineers.

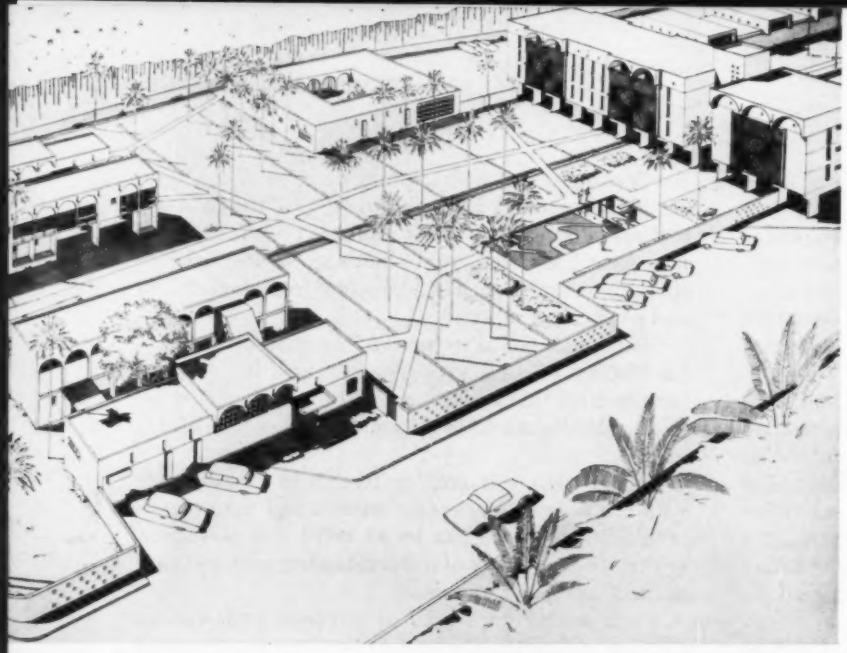
There have always been in the past, and without question will continue to be, many outstanding designers who, by gifted imagination, may find clients, or patrons if you will, who will not confine them to economic limitations, and with extravagance make limited exploration into the nature of materials. However, the hard core of the profession must design within an economic framework, and because of this must necessarily evolve a thorough technical background.

Structural steel has been utilized as a basic building material in this nation for about 50 years. Yet it has been only in the past several years that the architect apparently through repeated use has been able to utilize it as a medium of design. The architect is only now attacking steel as an element of design, and we have already moved into the new era which may some day be called the "Chemical Age."

At the present, its dominating leader is the chemical engineer. He is designing plastic buttons that look and feel almost like bone buttons. He is designing synthetic fabrics that are serviceable and in many respects better than the existing textiles and imitate them in appearance. He has designed plastic beams that are lighter than steel beams and almost as strong, and they look like steel beams. He is developing panels with the use of chemicals which are an exceptionally good imitation of glass panels, and in many cases lighter and more serviceable.

He is not designing a plastic structure. He can't. To do this he must return to the basic principles of architectural design and these do not lie in the area of his knowledge. If the history of steel design is any criterion, possibly within the next 50 years will evolve the design of the chemical structure. It can come sooner, but only if the professional architect will reactivate his interest in scientific application and become in fact a chemical engineer as well as an architect.

Each day brings new and wider scientific horizons. Each one presents a new problem for the architect and a new area of exploration, and in all this technical welter the architect must reassert himself as a technical leader as well as the guardian of our cultural and esthetic character.



RIGHT:

Supplemental Office Building
Manila, P. I.

Alfred L. Aydelott & Associates,
Architects

This supplemental office building will be located to the right of the present Embassy office building on Dewey Boulevard. The first floor, built around a garden court, will be of native stone. The central block rising three additional floors will be of reinforced concrete. The exterior walls of floor to ceiling glass windows will be protected from the sun by a patterned screen grid of cast concrete. The building will be completely air conditioned. It will contain some 70,000 square feet of net office space.



LEFT:

Staff Housing
Embassy Residence

Office Building
Bagdad, Iraq

Jose Luis Sert, Architect

The Department's program in Bagdad consists of the gradual development of a new property in the vicinity of the royal palace and bounded on one side by the Tigris River. The buildings currently being planned are a residence for the Ambassador, an embassy office building, and apartments for the staff.

The site is a long trapezoid of land about 1,500 feet in length and 300 in width with the short sides on the river and the principal avenue of approach. The office building is planned for location on the avenue, and the Ambassador's residence on the opposite river end. The staff apartments and other buildings will eventually occupy the middle ground.

The architecture is based largely on sun protection devices which have been skillfully used to create a style of their own. Within a structural scheme of poured and precast concrete, glazed tile and teak wood have been blended to produce a whole ensemble of interesting shapes and colors. Both old forms and new have been exploited fully, and the result is a bold functional architecture that keeps the mark of its locality.





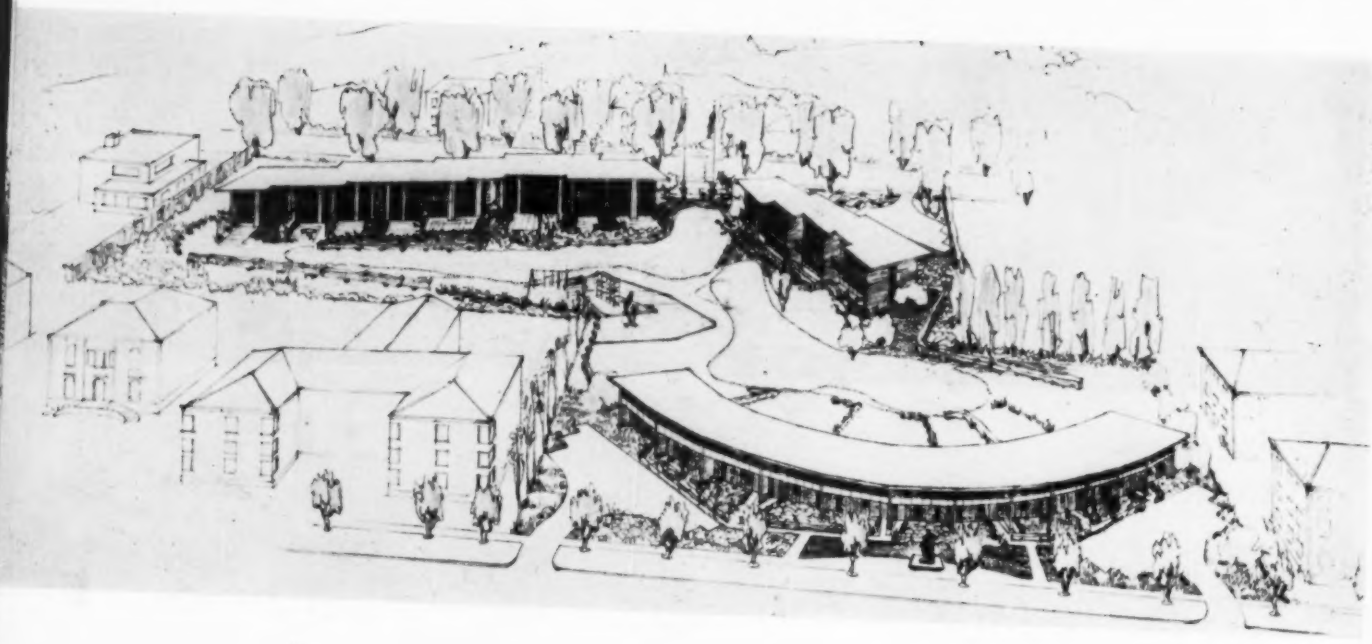
SECOND GROUP OF AMERICAN EMBASSY BUILDINGS

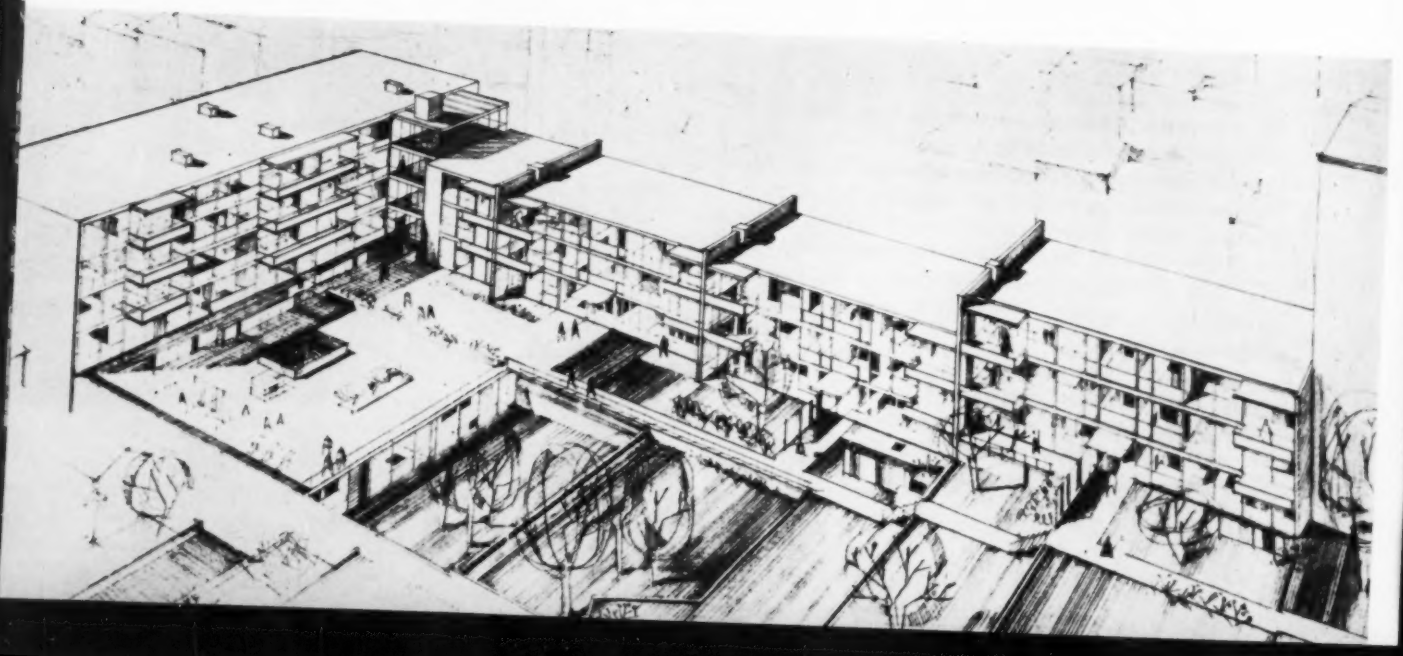
RARELY HAVE AMERICAN ARCHITECTS been challenged as in the program of building embassies abroad by the State Department. Architects commissioned to plan the various buildings are asked for designs which will (1) represent American architecture abroad, and (2) adapt themselves to local conditions and cultures so deftly that they are welcomed, not criticized, by their hosts. Architecture is asked to undertake a highly important diplomatic mission.

The designs here shown are a second group (first group, ARCHITECTURAL RECORD, May, 1955) in a program generally characterized as remarkably successful. The device of an architectural advisory panel, assisting the Foreign Buildings Operation of the State Department in the selection of architects and in reviewing their designs, has led to good communication between the architectural fraternity and officialdom both in Washington and abroad.

At the beginning of the program the panel consisted of Pietro Belluschi, F.A.I.A., Dean of the School of Architecture and Planning, M.I.T., Henry Shepley, F.A.I.A., Shepley, Bulfinch, Richardson & Abbott, Boston; and Ralph Walker, F.A.I.A., Voorhees, Walker, Smith & Smith, New York; and chairman Col. Harry A. McBride, former Assistant Secretary of State. In a plan of rotation of panel members, Mr. Walker has been replaced by Richard M. Bennett, F.A.I.A., Loebl, Schlossman & Bennett, Chicago.





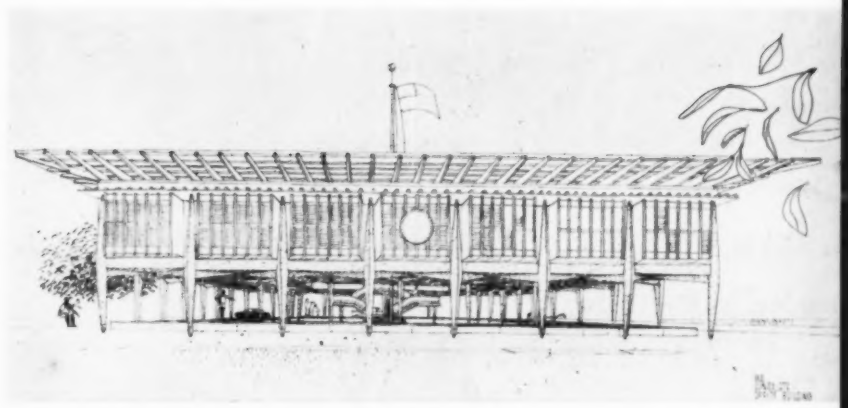


Embassy Residence and Staff Quarters
Seoul, Korea

Earnest J. Kump, Architect

The design of the new building recalls Korean precedents, but it is so planned as to permit economical construction in a day when Korea has lost many of its old skills and crafts.

The structure is of reinforced concrete laid out on a modular basis, with walls faced in colored tile and the deeply projecting roof covered with like material. The representational rooms are located in a one story wing connected to the main house which is the family's private residence. A portion of the old residence will remain as a separate part of the architectural composition, and be used for guests.

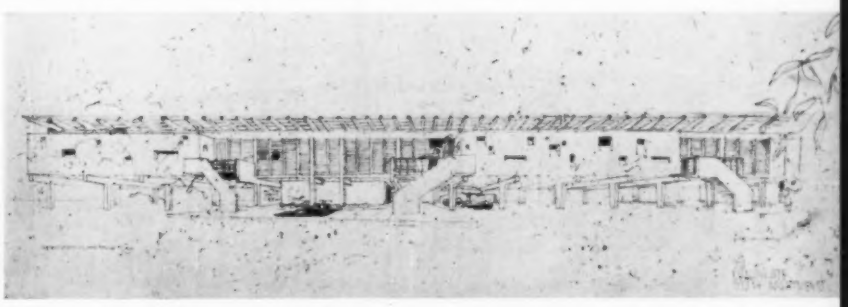


Staff Housing
Vienna, Austria

Henry Hill, Architect

Staff housing in Vienna will consist of two-story, garden type units of one, two and three bedrooms. The units are staggered and arranged in groups around an interior green space.

The structures are concrete with a marked vertical emphasis on mullion supports to give a visual two-story scale to the horizontal masses. Another exterior feature is the decorative use of colored tile inserts in spandrel facings, and in panels in which windows do not occur.



Office Building and Staff Housing
Accra, Gold Coast

Harry Weese, Architect

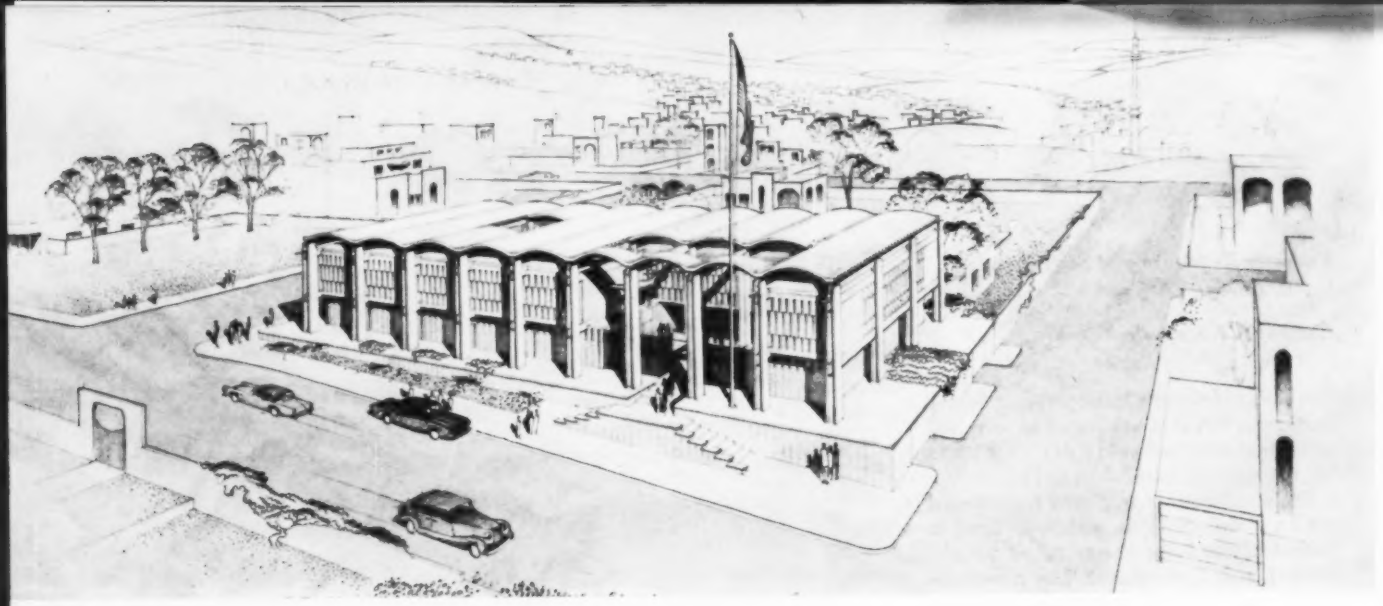
The office building will be set in a one and a half acre plot. It is to be of reinforced concrete raised on stilts around a garden with offices on the second floor. It will not be air conditioned, but the four sides of the building are to be faced with screened wooden jalousies and further protected from the sun by a large roof overhang. The net office space is over 8,000 square feet in area including a gallery and reception room.

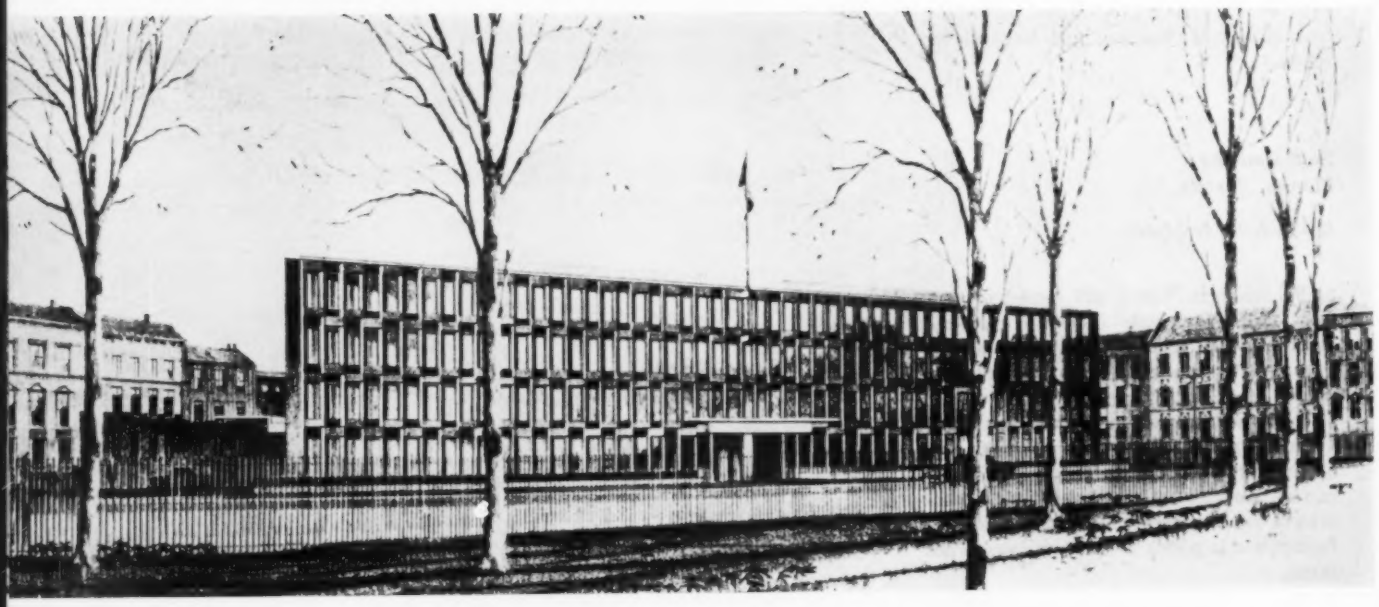
The staff housing will be located on 7.39 acres, in two buildings having two one-bedroom, four two-bedroom, and two three-bedroom apartments, making eight units altogether. Later three houses for Consulate officers will be added. Buildings will be of reinforced concrete raised on stilts with open car parking underneath. Exterior walls will be of screened wooden jalousies to catch prevailing breezes. Large overhanging roofs will protect against the sun and rain. The insulated ceilings will be dropped to create a ventilated space under the roof.

Staff Housing
Belgrade, Yugoslavia

Carl Koch, Architect

The buildings will be of reinforced concrete faced with natural or precast stone. This apartment house will be built around an interior garden fronting on two sides with playground facilities for children. Balconies for each apartment will face this garden. A built-in garage and storehouse for the use of Embassy personnel will also be included. As it is built on a sloping street the height of the structure will vary from three to six floors.







Office Building
Amman, Jordan

Paul Rudolph, Architect

The climate does not require air conditioning but the architect has taken pains to provide sun protection for roof and walls. The former consists of a complete roof covering by means of spaced, concrete ribs which are beam-supported on full two-story columns. The latter, wall protection, is accomplished by a cavity wall approximately 20 inches thick.

These two features combine into a unified piece of architectural design; the open roof and its columns providing a disciplined form under which the more irregular mass of the building creates an interesting pattern of masonry.



Office Building
Quito, Ecuador

Vincent G. Kling, Architect

The proposed U. S. Embassy office building will house the business activities of the Embassy, U.S.I.A., and a portion of the Defense activities. The building will be constructed, in the majority, of native materials and will be a reinforced concrete and anti-earthquake structural system. Although located on the equator, a heating system will be required because of the sudden changes of temperature. The present scheme provides for approximately 30,000 square feet.

Office Building
Oslo, Norway

Eero Saarinen, Architect

The building is triangular in plan and virtually occupies the whole of the property. Perimeter offices surround an enclosed interior court. A special feature is the precast exterior wall which is load-bearing at each floor and obviates the use of columns. This permits treatment of the elevations as an over-all pattern of windows, mullions and spandrels.

The exterior facing will be in effect a dark granite chip terrazzo, and the windows double glass casements made of teak wood and painted white.



Office Building
Karachi, Pakistan

Richard J. Neutra, Robert E. Alexander, Architects

The proposed U. S. Embassy office building will house the business activities of the Embassy, U.S.I.A., I.C.A., and the Defense Attaches, and will be a permanent fireproof building, completely air conditioned.

The office building will contain approximately 69,000 gross square feet, including a garage and equipment wing. A warehouse of 16,000 square feet will also be constructed at the rear to be used in connection with U.S.I.A.

Office Building
Port-au-Prince, Haiti

Don Hatch, Architect

The Embassy office building will be located on a triangular site on the present exposition grounds and will overlook the bay. The building will be partially air conditioned with the use of colored aluminum vertical fins and heat resisting glass to reduce the glare of the sun, and will be oriented so as to take full advantage of the ocean breezes. Extensive piling will have to be used as the ground water is approximately two feet below the sidewalk level during the rainy season.

The Architect as Universal Man

In Dusseldorf a naked figure of a man realistically modelled by George Kolbe stands incongruously in front of an office building designed by Helmut Henrich and Hans Heuser. The building is not particularly severe — its façade is masked by balconies that are decorative in effect though no doubt functionally justifiable.

There are many other examples in other countries and architecture's last concession to figurative art — the Henry Moore groups outside the Hertfordshire schools is the typical example from my own country. Sometimes a figure will be clamped to a blank wall, like Lipchitz's bronze on the side of the Ministry of Education and Health in Rio de Janeiro, but such an arbitrary juxtaposition of sculpture and architecture serves only to emphasize the totally distinct plastic conceptions that the two arts now represent. Even the Moore screen on the Time-Life building in London, though it represents a solution reached by architect and sculptor in association, and though the sculptures have been "denaturalized" to conform better with a functional building, nevertheless has the air of a concession: the architecture *admits* the sculpture, swallows it up without digesting it. The character of the building would not change if the sculpture were to be replaced by a blank wall.

Architecture was the parent of sculpture — indeed, the earliest architecture *is* sculpture, and even the primitive African hut of our own time is still a work-of-art to live in. Architecture was perhaps the parent of all the plastic arts; certainly the patron. The paleolithic cave was a decorated temple, and even the art of writing may have been first conceived as an inscription on a monument. We must think of the archaic temple as a vast Christmas tree, which is then gradually stripped of the votive works of art that hang on it. But we must also think of the architect as a Father Christmas, capable of distributing these gifts.

The specialization of the arts, like the division of labour, is a process which, as we look back on the history of civilization, seems inevitable. An art like painting would never have become so various and so expressive if it had remained an adjunct of architecture. Nevertheless, it is useful to remind ourselves how comparatively recently that independence was established. There was no "free" painting before the fifteenth century, and no "free sculpture" before Donatello. Indeed, a unitary conception of art was normal until the beginning of the Industrial Age, and as industrial processes have developed in the direction of mass production, so artistic processes have developed in the direction of isolation and individualism. The *artist* once signified *a man of total plastic sensibility*, just as the artisan was *a man of total practical capability*. Music and poetry were not arts in this sense, but rather accomplishments, modes of communication. Plato distinguished the arts which are based on practical skill (techne) from rhetoric, which is a mental exercise.

That this condition of separatism is fatal to the arts is shown in various ways. There is, in the first place, no "monumental" achievement in the contemporary arts; and many of our individualistic painters, perhaps in some measure aware of that failure to function in this total sense have, after a period of restless experimentation, expressed their frustration in forms of art that are essentially private. In this way the plastic arts seem to aspire to the condition of music and poetry — that is, become voices, modes of subjective communication between individual and individual, or between individual and coterie. The monument, on the other hand, is always an autonomous object — a transfusion of personality into a timeless and impersonal construction. An Egyptian pyramid, or the Temple of Somnathpur, or the Parthenon, or a Gothic cathedral, does not "express a personality," or convey a message. We can, it is true, read "serenity" into Greek architecture, or "transcendentalism" into Gothic architecture, but such exercises have nothing to do with the objective reality of the building as such: and in any case, serenity and transcendentalism are universal concepts rather than sensuous reactions.

The quality that concerns me for the moment, however, is the complexity of such monuments — their esemplastic power as Coleridge used to call it — the reduction of a multiplicity of purposes to a unity of effect. This quality may sometimes be due to some kind of collective intuition — the working of several minds to a common conception: the spontaneous overflow of a group consciousness. It is difficult to explain the Gothic cathedrals on any other supposition. But more usually the unity of effect is due to a single controlling mind, that of the master-builder, a man who was capable of conceiving the monument, not as a shell to be adorned (or as a Christmas tree to be "decorated:") but as an organism, every particular cell of which is morphologically and functionally related to the whole.

The last metaphor is misleading if it suggests that every function is utilitarian (in biology or in architecture). Nineteenth century materialism left us with a very narrow conception of utility — the useful was anything that promoted the health, wealth or comfort

by Herbert Read

of mankind — in short, happiness. Those nations that have already secured such blessings (such as the Americans and the Swiss) have discovered that there is something missing — an intangible ethos, wonder, "worship," glory, or simply beauty. We begin to suspect that this intangible something is just as necessary for life — for life in the strict biological sense — as comfort or wealth: that it is one of the conditions of complete health. Slowly we have become aware of the presence of a psychosomatic equilibrium in life itself, as well as in the human body. Beauty after all is not an elegant addition to the good life: it is the tone or temper of all that actually makes life "good." It is the style of life when life is positive, expansive, affirmative.

Architecture, which is so intimately concerned with the basic activities of human life (as providing the necessary shelter — the biological shell for a sensitive organism) is thus required to be always affirmative in this sense — stylistically *vital*. But the solution of a practical problem is not stylistically vital in this sense. What moves us, inspires us, incites us is not satisfaction, but curiosity, wonder, endless search for an ideal perfection. Such ideal perfection cannot be limited by necessity or contingency (by functional needs); it must of necessity ignore and transcend the practical.

Fiedler, and probably Semper and Hegel before him, pointed out that Greek architecture (which they assumed to be the highest point of architectonic genius) had never been concerned with practical needs of technical solutions. "The Greeks invented nothing in their architecture, but developed only that which they received, and with such a clear awareness that they necessarily arrived at a result in which everything directly reminiscent of the demands of needs and wants, of the nature of the material need and of the conditions of construction, had disappeared except for faint echoes." [1] The Greek temple is a pure expression of form, a monument dedicated to ideal beauty and to nothing else. In this sense Fiedler thought it far superior to the Gothic cathedral, which was inspired by practical needs — "the pointed arch was only a technical development; artistically it was an evasion. In a struggle with practical needs man was not attempting to find a higher expression of form and did not hesitate to mutilate the form in order to devise a solution to a practical problem, and thereby renounce any artistic progress from the beginning." One may protest that nevertheless a higher expression of form did emerge on the basis of this technical development: that at Amiens and Lincoln the intellect has elaborated a practical device into a free form. But Fiedler has made his point — and it is a good one: architecture is a formal and not a technical development: it is a development of the relatively chaotic and the pragmatic towards ideal form, ideal order: a development which takes part in the aesthetic consciousness of man and not as the solution of a practical problem.

I have already hinted at a distinction between an aesthetic consciousness determined by time-sense (music and poetry) and an aesthetic consciousness determined by space-sense (the plastic arts). There may be intercommunications, but I am more concerned with the unity of plastic aesthetics. I mean that *a priori* the sensibility of the plastic artist should be expressible in any and all the plastic arts: that the segregation of architect, sculptor, painter and craftsman (woodworker, silversmith, weaver, etc.) is merely a *division of consciousness* and has had altogether deplorable effects on the development of the arts, above all, of architecture.

We know that the great monuments of Greece and of the Renaissance were, at their best, conceived in their entirety by a single clear intellect, and we marvel at the capacity of an individual like Pheidias, or Brunelleschi, or Bramante, or Michelangelo or Wren. But what should cause us more surprise is the complexity of an architectural enterprise that leaves the structure to engineers or builders who work by calculation and not by visual intuition; that then expects sculptors and painters to adapt their personal vision (or fragments thereof) to a technical formula; and expects from this conjunction of compromised talents a work of art!

To look at modern architecture from this point of view results in a new valuation. It does not necessarily mean a general condemnation of all functional architecture. On the contrary, we may find among the strictly functional monuments of our time a few that carry technical means to a new clarity of form — that repeat the Greek archievement by intellectualizing all the material elements — the materials are, as it were, dematerialized and what remains is a form as pure as the Pyramids. I would say that certain buildings and projects by Mies van der Rohe approach this condition. It is true that this architect has always been in the past associated with an anti-formal conception of architecture. "We refuse to recognize problems of form, but only problems of building. . . . Form, by itself, does not exist — Form as an aim is formalism, and that we

[1] *Conrad Fiedler: On the Nature and History of Architecture. 1878. Trans. Carolyn Reading. Privately printed by Victor Hammer at the Transylvania University, Lexington, Kentucky.*

reject" (1923). But there are later statements which are not so positive — e.g.: "My attack is not against form, but against form as an *end in itself*. . . . Only what has intensity of life can have intensity of form. . . . We should judge not so much by the results as by the creative process. . . . Life is what is decisive for us. In all its plenitude and in its spiritual and material relations" (Letter to Dr. Riezler, 1927).

"Let us not give undue importance to mechanization and standardization. . . . For what is right and significant for any era — including the new era — is this: to give the spirit the opportunity for existence" (1930). It is true that he continues to oppose "the idealistic principle of order" to "the organic principle of order" (Inaugural Address of 1938), but the distinction is almost verbal, for the organic principle is defined as "a means of achieving the successful relationship of the parts to each other and to the whole," which was the Greek ideal of form. He can repeat "the profound words of St. Augustine: Beauty is the splendor of Truth." His latest work (1950) is:

"Wherever technology reaches its real fulfillment, it transcends into architecture. It is true that architecture depends on facts, but its real field of activity is the realm of significance."

I do not assemble these quotations to give a particular emphasis to statements that might seem to imply a mystical outlook in Mies van der Rohe: his buildings are a sufficient refutation of any suggestion that architecture should be used as a language expressive of states of mind or emotion. Architecture is always regarded as "the crystallization of its inner structure, the slow unfolding of its form." But it is distinct from technology, though dependent on it. "Our real hope is that they (architecture and technology) grow together, that some day the one be the expression of the other. . . ." That is what happened in Greek architecture: the technology was taken over, nothing was invented, but gradually proportions were refined, forms were defined, until the fusion was complete: the ideal form was a purification, an amplification of the organic structure.

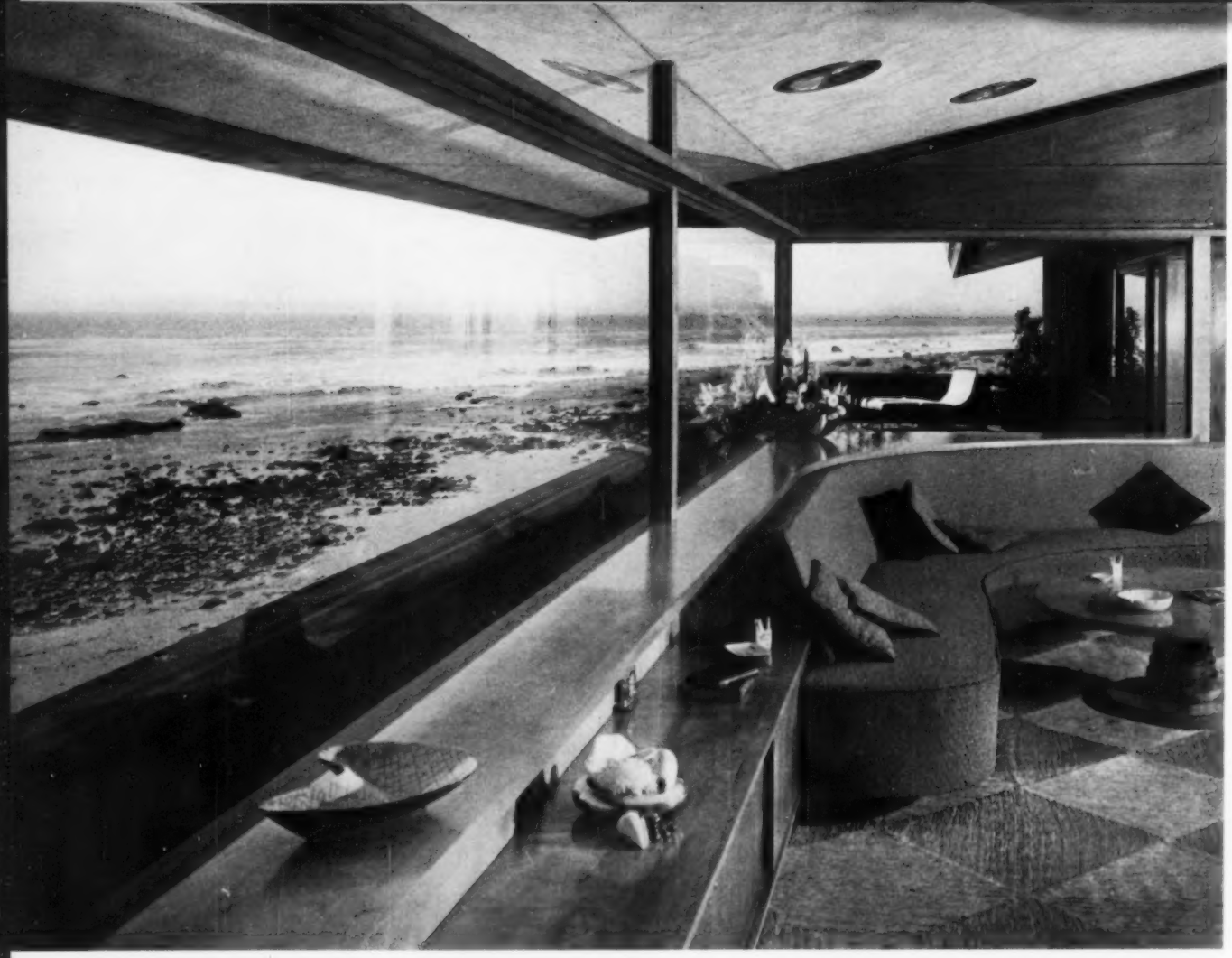
I believe such a fusion has taken place in Mies's work in Chicago — the Minerals and Metals Research Building of 1942–43, the Alumni Memorial Hall of 1945–46, the Apartment Houses at 860 Lake Shore Drive (1951), the Chapel for the Illinois Institute of Technology (1952), and the project for the Architecture and Design Building (1952). To these we may now add the project for the National Theatre, Mannheim (1953). But what we must immediately note about such buildings is that they are "undecorated" — no sculptural groups on the façade or in front — no Kolbe declaring its naked humanity on the porch — no "works" by individualistic artists of any kind. The details that may be called decorative on all these buildings are determined by the architect himself, and are usually a decorative use of normal structural materials — "structural elements are revealed with decorative effect," as Philip Johnson neatly expresses it. The Lake Shore Drive buildings have walls of glass which might have been left with a smooth surface, as they are in the Lever building in New York; but Mies has welded vertical steel I-beams which may serve as wind-braces or mullions, but whose real function is to project as decorative elements. The decorative use of material is more obvious in the Mannheim Theatre project, for the building is shown resting on a plinth of highly dramatic marble.

Mies van der Rohe, so far as I know, practises no art other than architecture, though he is a connoisseur of painting and has a fine collection of the works of his friend Paul Klee. Le Corbusier, to pass to another significant architect of our time, is a painter of considerable achievement, a sculptor in wood and concrete, a designer of tapestry and furniture, and a mosaicist. He is a universal artist of the Renaissance type, like Leonardo or Alberti. He does not hesitate to combine his various talents in a single architectural conception, but in general he has kept his versatility in the background, perhaps realizing that there is a contradiction between the personalist tendency of the painting and sculpture, for example, and the impersonal values of the architecture. A painting or a mosaic in a Corbusier building is by another artist — Charles Edouard Jeanneret-Gris, in fact. Nevertheless, if we look at Le Corbusier's achievement in its wider context — as town-planning, la Ville radieuse, a way of life — we see that the marginal decor is of no great significance. It can be swallowed up as a play activity — something taking place *within* the architecture — but it does not fuse with the architecture, and is not a formal purification of the underlying technology. The architecture is a separate conception and a complete unity without the decor. The architecture expresses an intolerance of the detached work of art that extends to the architect's own personalist creations.

These two examples will serve to present the problem. To take further examples — Frank Lloyd Wright, or Gropius, Oscar Niemeyer or Pier Luigi Nervi, Aalto or Breuer — would not resolve the problem, which is basically a revolt against personalist art and an attempt to find in architecture a new universal art: an art represented proto-typically by Greek architecture and later by Byzantine architecture. The Parthenon and Hagia Sophia are the paradigmatic types, the unification of the arts in the monument, and this unification is not achieved by change, or even by conscious co-ordination: it is the all-inclusive concept of a master mind, a master-builder. We do not know what kind of future lies beyond the threat of nuclear weapons — none at all if the threat becomes a reality and radiation falls like a fatal rain on all mankind. But if there is to be a constructive future, we may be sure that the transition from our present state of culture fragmentation can only be effected through a new conception of the architect: the architect as a comprehensive man of intelligence, a single source of unity and universality. From that new concentration of formal values the arts might once more derive a common style and an organic vitality.

VACATION HOUSES





CALIFORNIA BEACH HOUSE EMPHASIZES VIEW

House in Malibu, Calif.

Henry Robert Harrison, Architect
Eckbo, Royston & Williams, Landscape Architects

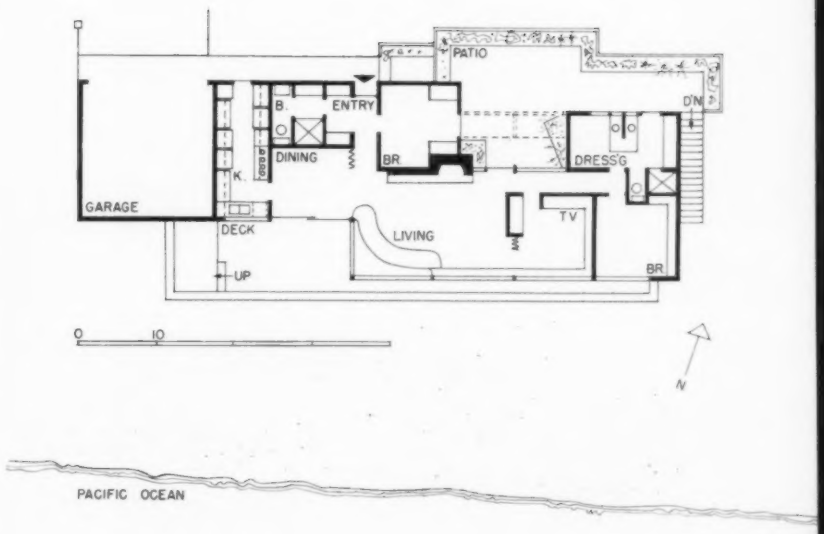
A SUPERB OCEAN VIEW was the theme around which this house was planned. The site was difficult: less than 20 ft deep at the western end, it sloped steeply down toward the ocean, dropping over 15 ft in 20 ft. House, garage, patios and deck all had to be placed on a wood piling foundation similar to that used for piers, and at high tide the house is literally over the ocean. Large glass areas and a cantilevered balcony on the ocean side bring the view into all major rooms — kitchen included.

The owners wanted a house which would be comfortable the year around and which could accommodate both large beach parties and small formal groups in the evening. To meet the first requirement, the house has thermal insulation and floor-radiant heat; on the shore side it is almost totally enclosed so that, as the architect says, "the owners may turn their backs to the elements when desirable." Guest room and bath are adjacent to the entry, connecting with the stairs to the beach through the enclosed patio.

Both exterior and interior walls are redwood, rough-sawn and unstained. Cabinets are birch, highly finished as contrast. Ceilings are untinted tan-white plaster.



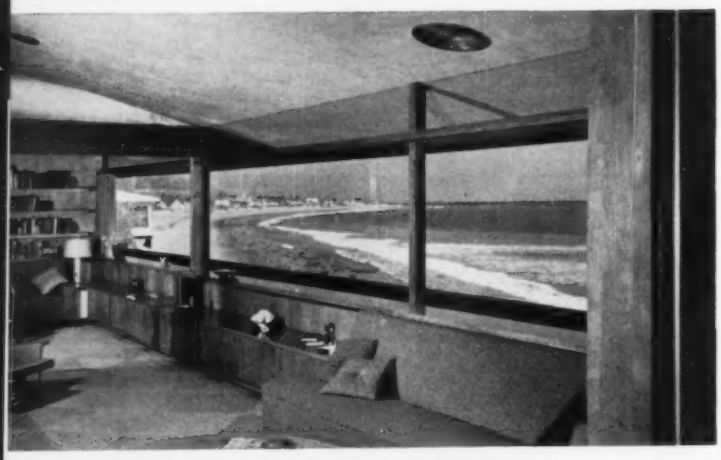
Douglas M. Simmonds











Living room opens to high-walled patio on one side, broad deck on other. Downward slope of ceiling focuses attention on view. Solid brick of fireplace wall is pleasant contrast to openness of opposite side of room. Floor covering is straw



Douglas M. Simmonds



Aertsens Michel

SOUTH AMERICAN HOUSE ON A MOUNTAINSIDE

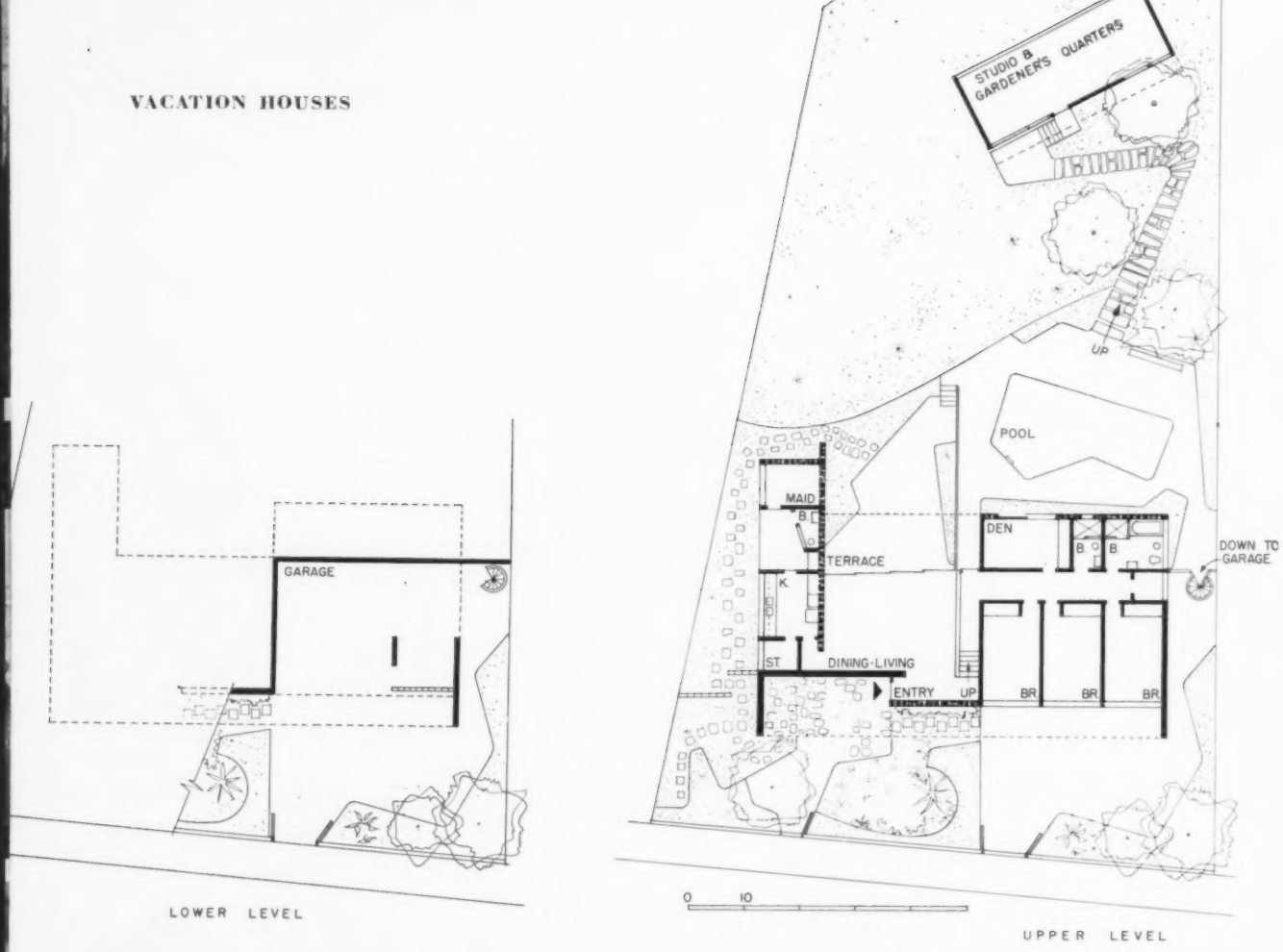
House for Dr. Conto e Silva
Tijuca, Brazil

Affonso Eduardo Reidy, Architect

THE MOUNTAINSIDE COMMUNITY in which this house is located is only a short distance from the center of Rio de Janeiro. Its excellent climate and proximity to the city have made it a popular weekend and vacation spot —so popular that privacy is not always easy to achieve.

The lot purchased by the owners of this house sloped steeply and irregularly upward from the street, narrowing almost to a point at the upper end. The lower part of the site was the only possible building location (see plan and photos, next two pages), and the house was, accordingly, placed close to the street. The slope on this side was used to develop a three-level plan with the main living area on the intermediate level, completely enclosed at the front and wide open to the garden at the rear. The bedrooms are over the garage, a few steps up from the entry; although they face the street they are high enough above it to ensure privacy.

The irregularity and steepness of the site produced a natural "zoning" of the garden area: living room terrace and pool are on different levels so that each can be enjoyed simultaneously by different age groups without too much conflict.


STUDIO & GARDENER'S QUARTERS
UP
POOL
MAID
B
DEN
B
B
DOWN TO GARAGE
TERRACE
K
ST
DINING-LIVING
ENTRY
UP
BR
BR
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GARAGE
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10
LOWER LEVEL
UPPER LEVEL



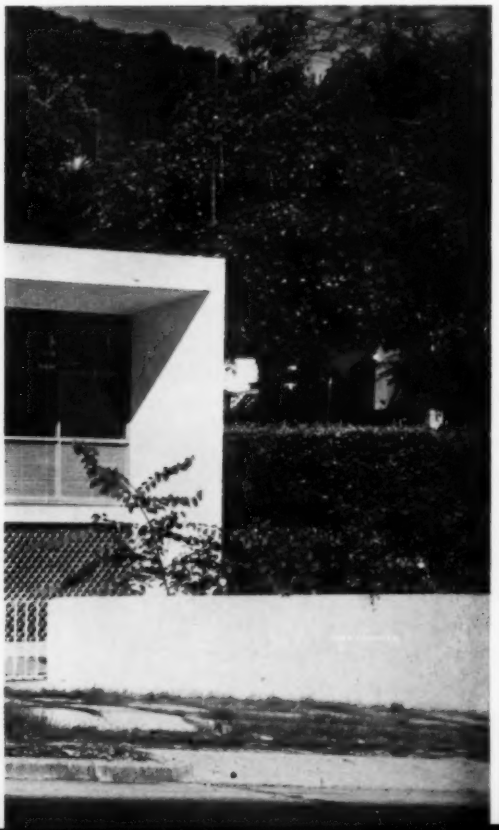




Site was planned for maximum privacy in crowded neighborhood: garden at rear cannot be seen from street or even from maid's room and kitchen; along sides of lot it is protected by full trees and dense planting. At upper end of site, high above house, is the gardener's cottage which also includes a studio or workshop. Pool, on intermediate garden level, is directly accessible from bedrooms



Aertsens' Michel







FUTURE PERMANENT RESIDENCE IN CONNECTICUT

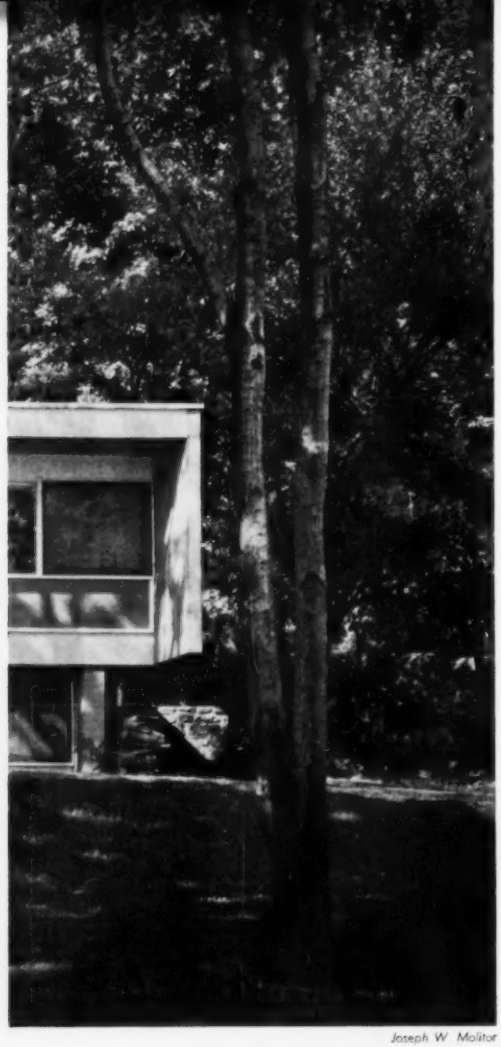
House for Mr. and Mrs. Herbert Perry, Sherman, Conn.

Herbert Beckhard — William W. Landsberg
Architects

THIS LAKESIDE HOUSE was designed for year-round vacation use and eventual permanent residence. The owners have a number of relatives with whom they maintain close contact and for whom they wished to provide guest accommodations. They also wanted a direct entrance from the beach to a shower to exclude sandy feet and dripping bathing suits from the main living area.

The steeply sloping site had excellent soil conditions, with no rock to interfere with excavation work. It permitted a relatively inexpensive lower level for guest rooms and bathers' shower, plus provision for a future maid's room if desired. This two-level plan made it possible for every room in the house, kitchen included, to face the fine view out over Candlewood Lake. It also allowed direct access from the living-dining area to the terrace and gave all principal rooms the best possible lake view.

Color was important in the design of both exterior and interior. Exterior is natural cypress with white trim, black accents in moving sash and screens, and horizontal panels in red and yellow. The same colors are carried over into the living room (photo opposite), where yellow walls surround the white brick of the chimney which in turn is accented by a red-painted niche.

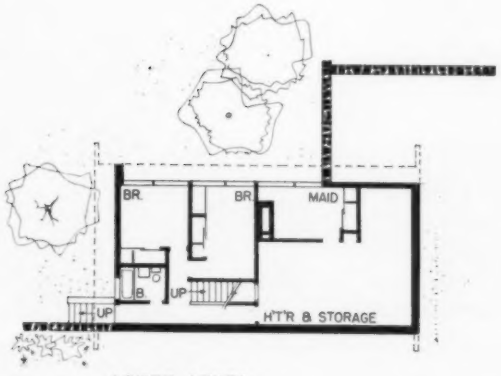


Joseph W. Molitor



UPPER LEVEL

0 10



LOWER LEVEL











Joseph W. Molnar

Characteristics of the site have been carefully dovetailed with fenestration and entrances of the house to add much comfort and efficiency. While the south facade, facing the lake, is quite open, relatively blank end walls give privacy from neighbors on the relatively narrow lot. Halls and baths, with high strip windows are placed to the north side. Retaining walls permit development of terraces and entrances to living areas on upper level, shower and guest rooms on the partially sunken lower level

ADMINISTRATION AND SERVICE BUILDING

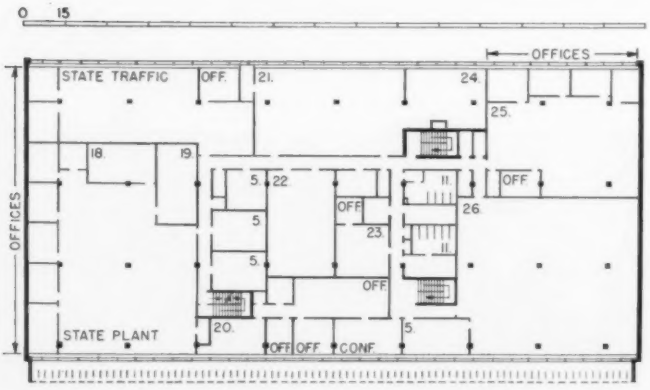


Stuart Weiner

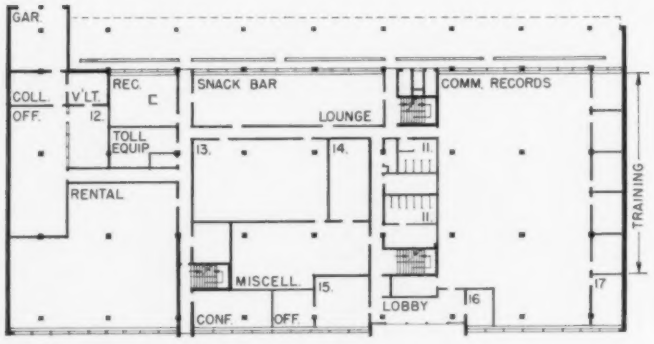
Mountain States Telephone Company
Phoenix, Arizona

Edward L. Varney, Architect
Ned H. Abrams, Associate Architect
L. W. Wiese, Structural Engineer

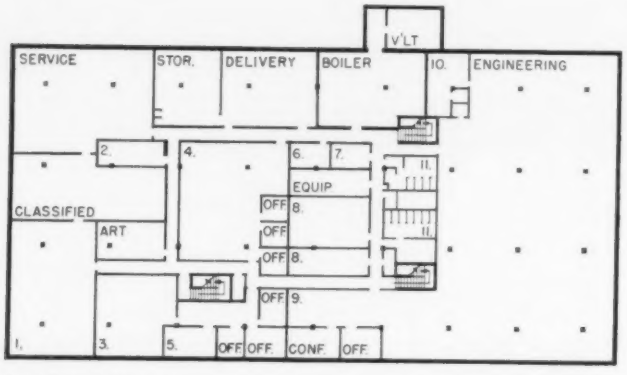
ECONOMY, CLIMATE AND EXPANDIBILITY governed the design of this building for the administration, sales, service and employee training offices of the Mountain States Telephone Company's Arizona operations. Built as a lease-purchase project of the Kitchell-Phillips Contracting Company and the Utah Construction Company, the building represents, says the architect, "a pleasant collaborative association among architect, owner and lessee" which is now being repeated on another project for the same company in northern Arizona.



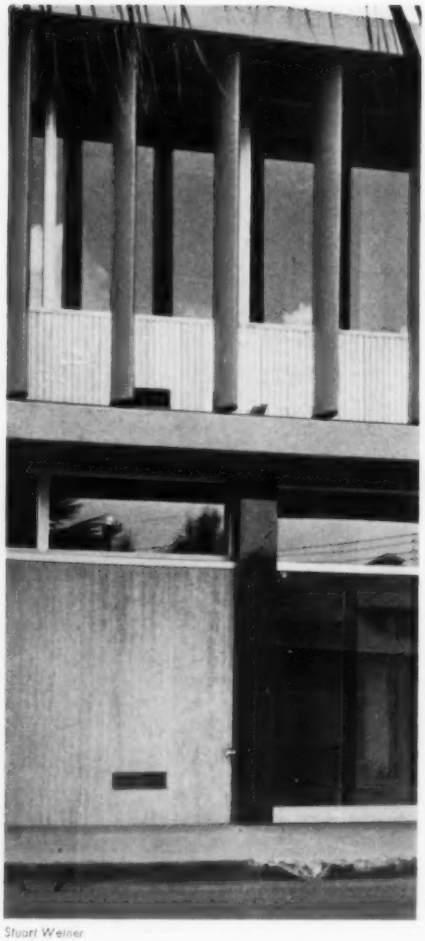
THIRD LEVEL



STREET LEVEL



FIRST LEVEL



Stuart Weiner

1. Alphabetical
2. Ditto Machines
3. Sales Clerical
4. Arizona Sales
5. Training
6. Building Maintenance
7. Engineering Arch's.
8. Archives
9. Toll and Exchange
10. Blueprint
11. Toilet
12. Coin Counting
13. Order Typing
14. Mail Tellers
15. District Manager
16. Service Observation
17. Comm. Monitor
18. Personnel
19. Stenography
20. General Manager
21. North Plant Assignment
22. Assembly and Proj.
23. State Cashier
24. Dispatch Group
25. Arizona Commercial
26. Phoenix Commercial

Phoenix's desert climate accounts for the building's most striking feature — the sun-operated louvers along the street front's second floor (actually the building's third floor as the plan is split-level). Left to right, below: lobby at ground floor level; private office protected from sun by louvers; detail of louvers and deck between them and metal-sheathed wall









ADMINISTRATION AND SERVICE BUILDING

Economy dictated structure (reinforced concrete); construction method (lift-slab); and simplification of details (such as elimination throughout of furred ceilings). Electrical and air distribution systems are carried in special duct cast in floor slab so furring is unnecessary; architect-designed combination light fixtures and air outlets are fastened to under side of slab. Building cost slightly over $10 per sq ft. Elevator installation was postponed until building expands vertically (it was designed to take two more floors); with split-level plan, no employee normally climbs more than one flight of stairs and there is little traffic from outside. Below, top to bottom: general office areas, top floor and below grade; parking lot and stalls at rear







Stuart Weiner

RELIGIOUS BUILDINGS

The Horizontal Cathedral

A discussion with Mario Salvadori on today's structural potentials

WE ARE EVERYWHERE TODAY concerned with finding forms suitable to the purposes of our buildings and to the time and place in which we build them. Our churches have been noticeably slower than other building types in finding forms expressive of their ancient purposes, but at the same time suggestive of the dynamic regenerating force of faith.

However, structural method appears still as valid a source of form as it was in earlier days of great church building and great architecture. The dome was developed in Byzantium and vaulting in Gothic Europe. Is the twentieth century developing forms to rank with these?

There is, perhaps, no one who can answer this question since there are so few who are alive to both structural potentials and the significance of our religions and their symbolism. But it is possible to find among America's experienced and forward-looking engineers answers at least to some questions which are being raised regarding physical values in our evolving structural systems. The editors of ARCHITECTURAL RECORD recently sat down with Mario Salvadori, structural designer and teacher, and questioned him on this theme.

QUESTION: If we continue to experience in our lifetime the revival of religious concern which appears now to be happening, do you see particular potentials that structure gives us which could help satisfy, architecturally, the return of mass interest in religion?

SALVADORI: To date we have seen only a revival of church architecture which may be called the revival for the needs of the individual. It seems that most modern architects who have offered essential contributions, with meaningful structures, have built only small churches, and most of the time, chapels. For example, the chapel in Belo Horizonte, Brazil, by Niemeyer, which I consider very significant — particularly in terms of its location and its motivations. This revival of interest is taking place and there are a lot of difficulties in trying to materialize it in architectural terms. These small buildings are essentially presenting an individual approach to religion, the approach in which between the person and God there is no room for anybody else. But, inasmuch as the psychological approach used by our culture is of the mass kind, we must inevitably respond to the needs of the masses in religion, and I believe that the only way in which this can happen is by producing structures which will actually embrace a large number of people.

In the Middle Ages massive religious interest produced very large structures. It seems to me that in the future we are going to have the same architectural phenomenon — large structures which will permit the mass gathering of people with the kind of resonance between the feelings of the people which will enhance worship. The essential difference I foresee between the large buildings of the past and the large buildings of the future is this: where the great dimension of the Gothic, for example, was vertical, our great dimension will be horizontal. I believe we now have the physical possibility of doing what other people could not do. In the Middle Ages, if you wanted to have a large group of people in a church, you had to have an essentially tall structure, because in stone large spans demanded large vertical dimensions. We are now in the position of being able to cover a very large area without having great heights. So far, none of our modern architects have experimented in this direction in terms of religious structures. Our only large modern structures whose spaces evoke emotions akin to those called up by the cathedrals are those like the hangars of Nervi and Freyssinet, or buildings like the airport terminal in St. Louis. And if you talk to Nervi, and you see the way he writes about his hangars, you will find a feeling of dedication which is typical of the architect who has an almost religious feeling about the building he builds. Here we have the right psychological state of mind of the architect; here is the need of the people for this new

type of religious building; and here are innumerable structural possibilities.

QUESTION: Today what are the several means of this extensive kind of spanning of space?

SALVADORI: We have steel, of course. It is rather strange, but the only cathedrals we have in steel are the old railroad stations like the Pennsylvania train room in New York, which you still see in a few places in Europe, but which are being discarded. The reason is essentially, I think, that they are too costly to maintain.

Then we have concrete. With concrete you can do a variety of things. You can even fake a Gothic cathedral. One of its most interesting uses is in folded plate, or hipped plate, or, as I like to call it, "creased paper" construction. I believe that the potentialities here are very great. One can span distances of 100 to 200 ft with "creased paper" construction and achieve magnificent effect. I have recently seen photographs of a church designed and built by Antonin Raymond in Japan (to appear in an early issue of ARCHITECTURAL RECORD) which is all of this form, and it is very simple and extremely beautiful. If you want to go beyond this, if you want to conceive of the very large cathedrals of the future — really fantastically large and beautiful — in which you would have spans from 200 to 700 ft, the answer is obviously that you have to have curved surfaces. Here we would be going into thin shell design.

Now I believe that in this field Nervi is the one who has really shown us what can be done. His buildings, the large ones, point a direction which is very clear and in which certainly up to 1500 ft, there are almost no practical limitations. Going still further — to a day when we may want to cover areas of say 2000 ft in diameter — I believe you must abandon the idea of a compressive structure, or a shear structure, so you have to abandon both "creased paper" and shells, and you have to go to a tensile structure or a hung roof. Now, if you start using cables and you think of a purely tensile roof, the limits are fantastically high. If you have a cable which can be stressed to only 50,000 lbs per sq in., it can carry itself over a span of about six miles. Of course it wouldn't be able to carry any additional weight, but in the light of this we can easily conceive of spans of a mile. Mr. Viera has shown us that we can now stabilize a roof so that the danger of flutter is completely avoided, and inasmuch as we shall have a little sample of this construction built this summer, I believe we shall be able to find out whether what Viera says is true — and I am sure it is — that no danger of flutter can ever occur. As you know, in tensile structures, it is not the dimension which really stops you. What stops you is that you've got to immobilize the structure.

We are aware that the San Francisco bridge and the George Washington Bridge move sidewise in a strong wind, anywhere between two and six feet. This is perfectly all right, but you wouldn't want a roof over your head that moves six feet.

So the fundamental difficulty in spanning a large distance by means of a tensile structure is the flutter. And it is for this reason that the arena in Raleigh — which in terms of its space is a marvelous building, one of the most successful buildings I've seen — presented serious difficulties. But their problem there has been a problem for the last 30 or 40 years. Paul Weidlinger has a very brilliant solution to this problem. He has a tensile structure which is a sandwich of very thin metal plate which he inflates by a little pressure of air, and in so doing he has a tensile structure which is perfectly steady and will not vibrate.

Caminos has recently devised the lovely looking tensile roof of canvas which could well be adapted to a variety of purposes, including the roofing of churches. But I am not certain that it will be flutter-proof in large dimensions.

I think that on top of the Weidlinger and Caminos solutions, which have not been actually put into practice, we have the Viera solution, and both Paul Weidlinger and I agree that this is the best answer we have today.

The essence of it is this: you have a tensile structure which you overload. You overload it and it comes down a little. Then you put the roofing material on — leaving gaps between the covering elements which would be either steel or slabs of concrete, or other materials. Then, when the overload is put on, you fill the joints. If this is steel, you may put additional plates that you weld; if it is concrete, you mortar the joints. Then you take the overload off. And the moment you take the overload off, the structure goes up again, freezes the compression into the concrete, and the tension in the cables, and it becomes a prestressed inverted thin shell which cannot move, and there is no need for additional elements to tie down the roof as was done in Raleigh. I think that this is the first fundamentally new idea in construction after the invention of thin shells. It's one of those strokes of genius that people have been reaching toward for 50 years. You know, there have been many bright people thinking about it, and they couldn't get anywhere, and here it is.

Viera's Montevideo sports building is 300 ft across, and it costs $1.00 per sq ft to roof.

Now in going back to our cathedrals, if we adopt either the direct solution suggested by Viera, or modifications thereof — and it is quite clear that his principle cannot be modified — I am sure that we can make applications in a variety of ways.

Having solved the problem of flutter, I believe that we can actually span tremendous distances, and that we can have what I would like to call horizontal cathedrals.

QUESTION: Does this mean that with this kind of reversed prestressing idea, you will need fairly strong anchorages of some sort on the sides?

SALVADORI: Well, I'm not so sure of that, you see, because one of the beauties of prestressing is that pre-

stressing is self-contained. You don't need external anchorages to have prestressing. You anchor it to itself. Prestressing is lifting yourself by your bootstraps; for example, in the Viera * solution which I have adopted in the building for Camp Columbia (scheduled for presentation in ARCHITECTURAL RECORD), all these guys and stabilizing cables just don't exist. What I have is a ring all around the building, and the cables are anchored to this ring and put in tension by means of weights. Then we are going to freeze the tension in the cables. We don't need any outside guy wires or any stabilizing wires, because this is prestressing, and is therefore self-contained.

QUESTION: What are you supporting the ring on?

SALVADORI: On just a set of columns. The columns can be very, very slender. Because here is another important point. If you adopt this prestressed, tensile roof, it is a self-contained element, which can be put, like a hat, on anything at all. It could be put on a central column; it could be put on a ring; it could be put on four columns; it could be put on anything you like. You have perfect freedom of support.

I have a ring, I put the ring on top of columns, and I don't need to tie it to the columns. I just put it there. The ring takes it. The ring is self-contained. It cannot buckle. Ordinarily if you have a ring, and you push on it from the outside, it may become an oval, and therefore collapse. But this ring cannot collapse, because in order for the ring to become an oval, one of the diameters would have to become longer while the other becomes shorter.

QUESTION: It is tied across the ring in all directions?

SALVADORI: Yes. It cannot buckle. It's just like a bicycle wheel. I'm going to have a wooden ring, 4 in. by 10 in., to take the whole roof which is 50 ft across.

QUESTION: Would a circular shape always be necessary instead of a square or a rectangle?

SALVADORI: It could be done in a square or rectangular form, provided you admitted some bending on the sides, or provided you used cables on the sides, in which case instead of having a ring you would have a catenary, and then at the four corners, you would have to have the guy wires. The variations are infinite; I foresee a great future for this kind of thing in connection with the large buildings of the type we are discussing.

QUESTION: Along with our need for large religious structures, there will continue to be a need for the small church structure. Some of these principles may be applicable and quite appropriate to these, but in addition are there any particular structural methods we have now or can look forward to that will be useful in small buildings?

SALVADORI: It is quite clear that nowadays our structural possibilities are such that we are in danger of running into what Nervi calls "academic structuralism." In other words, the architect knows that he can do anything he likes, and therefore he does wrong things because he can afford to. There are many possibilities that are not even costly. Now in connection with small buildings there is no structural problem. You can use any of the methods we've been discussing here. I believe, for example, that very lovely solutions can be obtained by means of hipped plate, "creased paper" construction in the small scale, or by the continuously curved approach of John Johansen.

QUESTION: You see these as definite improvements over what we actually are using now — bar joists, laminated bents and so on?

SALVADORI: They would be, in my opinion, great advances on two accounts. First of all, it seems to me that when people have been indeed religious, they have expressed their religious feelings by means which had not been used before. When you are deeply in love, and you are a musician, you offer a song which is really new — it must be new because you are deeply in love. And when you deeply love God, and you want to express your feelings for God, you offer something which has never been seen before.

QUESTION: Out of yourself?

SALVADORI: Out of yourself. Now, if you are going to imitate, in a stupid manner, what has been done before, you are not being yourself. Therefore, in one sense, you are not being sincere. And the fact that the modern architect who feels deeply about religion has all these possibilities at his disposal means that the moment we get the right man, we're going to have, even in this small scale, a jewel which represents the integration of his feelings, of form, of structure, of all that makes for a complete expression of religious feeling in the materials of architecture.

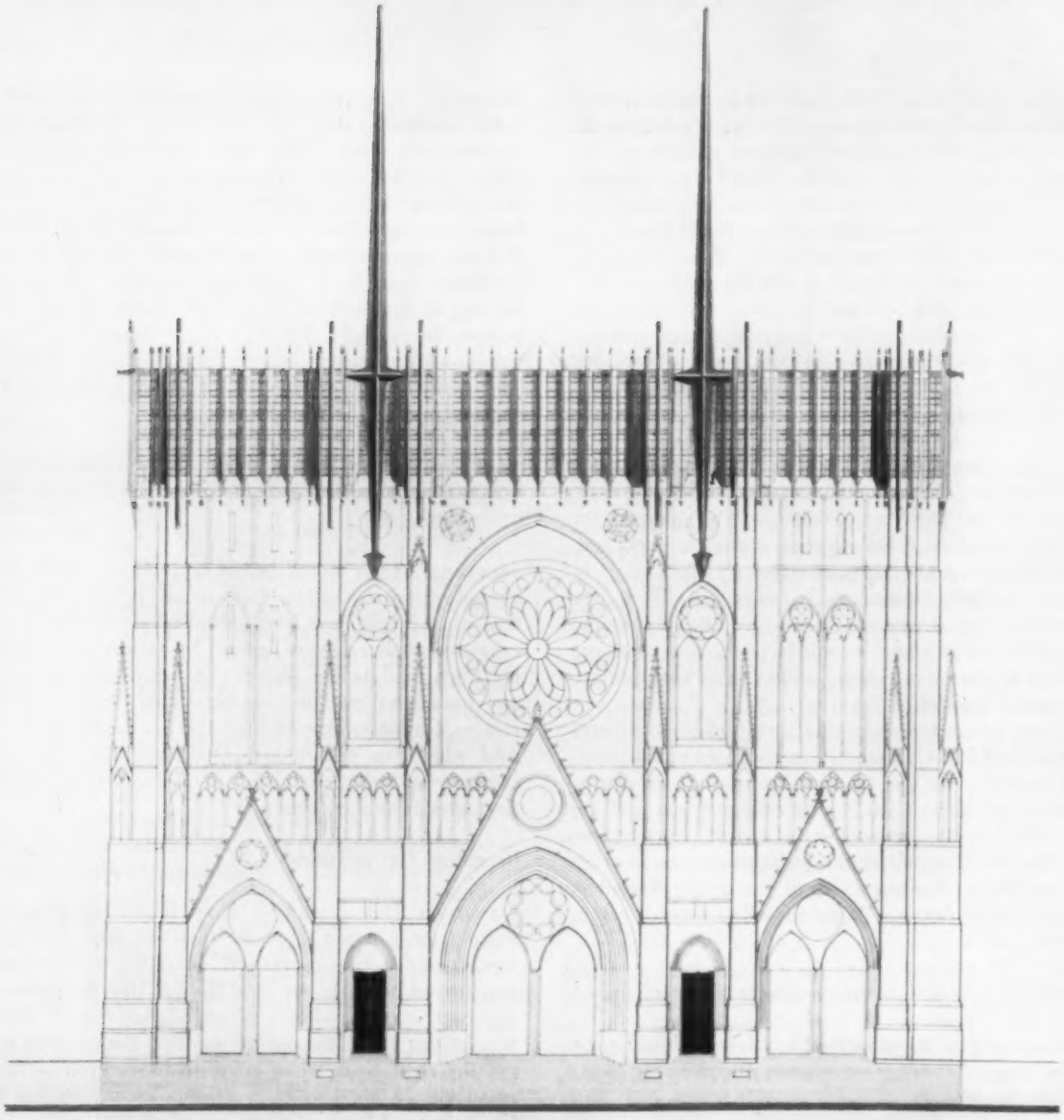
Now, for example, I feel that this is what Niemeyer has done in Brazil.

Here is a church which represents the history of the people, represents the countryside, represents through the Portina mural something the people of Brazil feel very deeply. Yet this marvelous chapel has not been consecrated because the officials of the Church do not feel that it is a religious building.

Now, you have asked if I feel that the conservatism of either the client, or the people, or the architect, would prevent some of these possibilities from being realized. My answer is a most emphatic *Yes*.

It seems to me that if our wonderful potentials are going to be realized, it will not be without difficulties imposed by people, by organized religious groups and their officers. But if the right man gets together with the right denomination, we may have one of these wonderful manifestations soon.

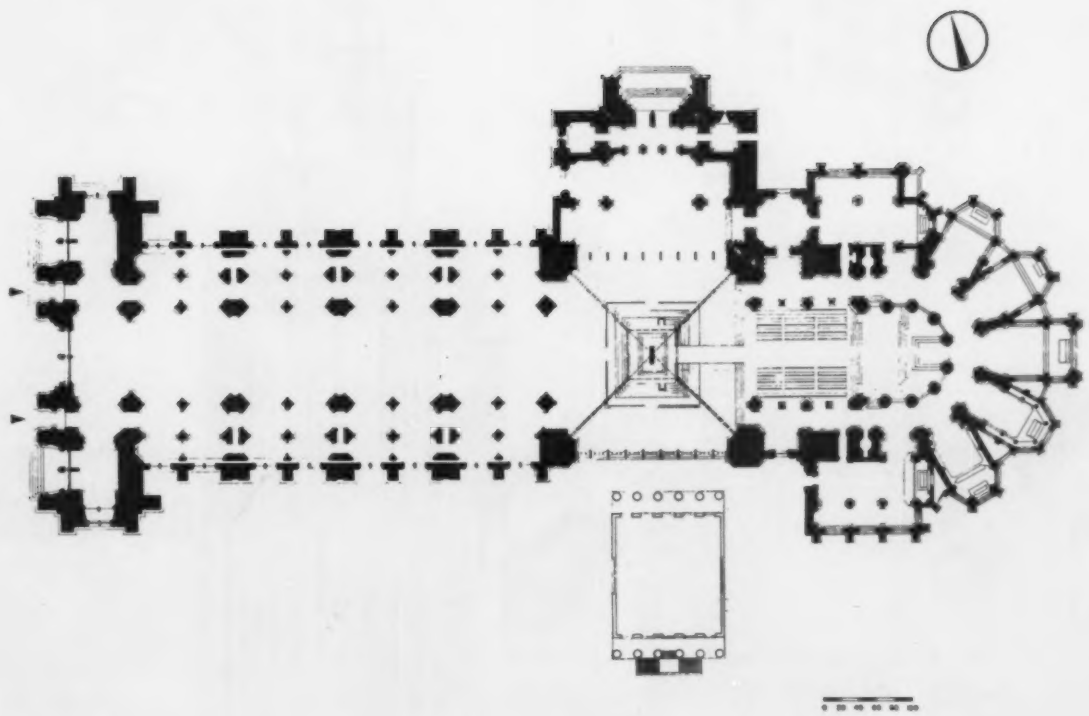
* *Preload Corp. owns world rights to the Viera system.*



FOR THE CATHEDRAL OF ST. JOHN THE DIVINE



THIS PROPOSAL for the completion of the Cathedral of St. John the Divine was made by John M. Woodbridge in connection with his Master's Thesis in Architecture at Princeton University this year. His general study, of which this was a part, dealt with the problem of relating the new to the old in architectural form. Herewith is the author's description of the way in which he proposes to achieve continuity with the Gothic inheritance through retaining a structural point of departure in which the materials and methods are contrasted.

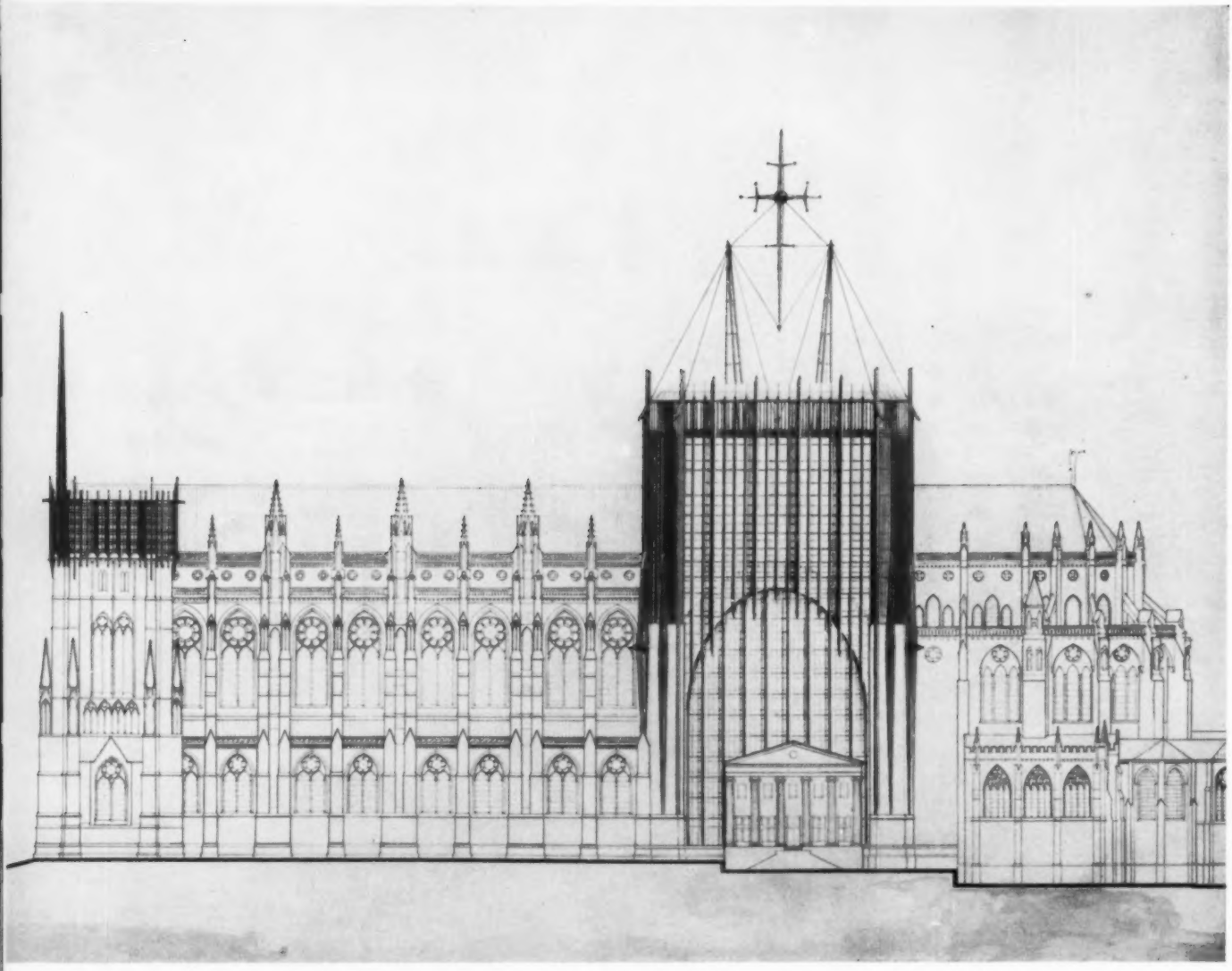


THE INITIAL STEP in the solution was to take account of the existing structural conditions at the crossing, and to place these conditions beside the needs, both esthetic and liturgical, for a powerful setting for the altar in the crossing. The great arches built by Heins and Lafarge to support their tower were the crux of the problem. Cram had virtually discarded them in all of his solutions. But their gigantic scale and the obvious expense of destroying them both argued in favor of keeping the arches if it were possible to integrate them with a contemporary structure. Out of this background came the idea for a tower suspended from diagonal ties within the square of the great arches, an idea which had three powerful reasons in its favor:

First, it provided a natural means of achieving the major aim of the program, the provision of a focal point at a freestanding altar in the crossing, and the tension system could project into the long vista of the interior without blocking it.

Second, it permitted the use of the arches as an integral part of a radically modern structure, combining old and new in a vivid way.

Third, it utilized a structural system which, by expressing lines of force in a way analogous to that of the adjacent Gothic (tension rods and cables with Gothic ribs), provided the op-

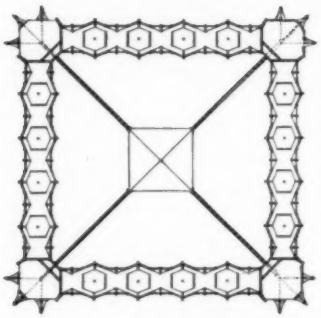


portunity for a structural harmony by contrast.

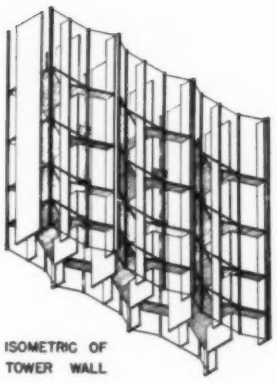
The scheme involves supplanting the present makeshift buttressing and ties of the arches with diagonal ties across the square supporting four great masts which thrust the ties down into an inverted pyramid centered over the altar. Enclosing the floating tower is a cage structure of concrete slabs and glass built on the arches, providing enclosure against the weather and light control. This cage is designed as an eggcrate with undulating surfaces, deep enough to accommodate the 12 ft thickness of the arches. On either surface of the eggcrate there is a plane of warm-colored diffusing glass bathing the crossing in a high intensity of warm, diffused light as a contrast with the low intensity of cool light in the other parts of the building. The two surfaces of glass also serve to insulate the great volume of the tower.

Within the side arches is a similar eggcrate of a closer vertical rhythm and smaller depth which would have stained glass on both sides in order to achieve continuity at the ground level with the glass in the existing parts. However, the two surfaces a foot or so apart provide an opportunity for a novel composition in depth, using the two planes to alternate transparent and translucent areas of glass.

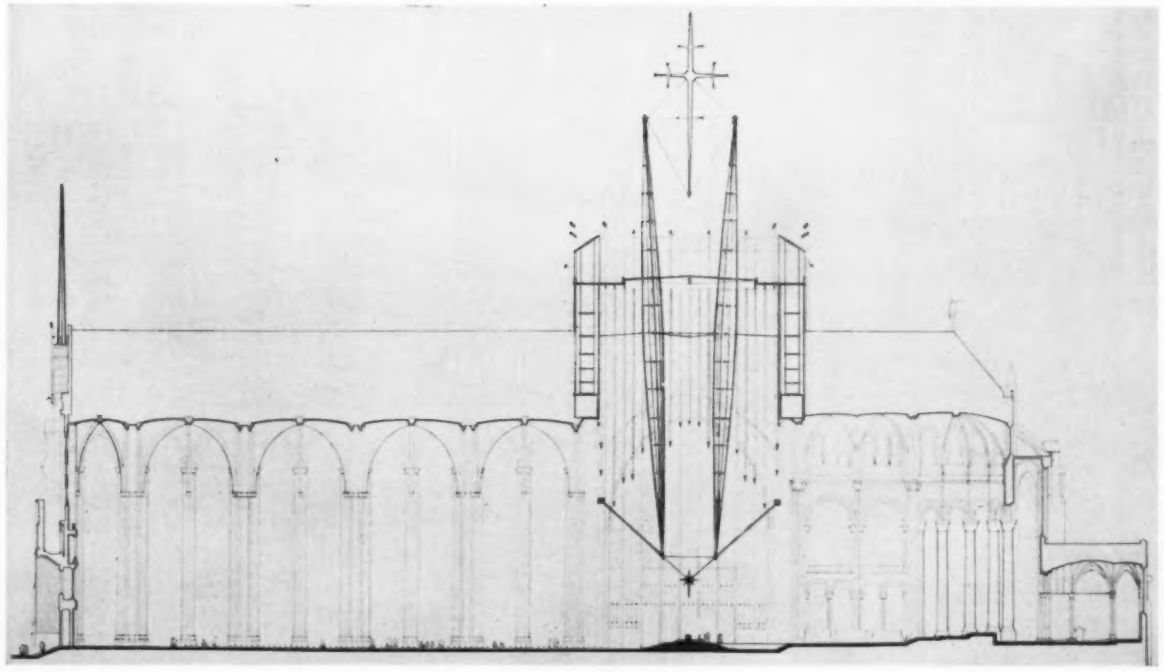
The broken surfaces of the cage express the



TOWER HORIZONTAL SECTION



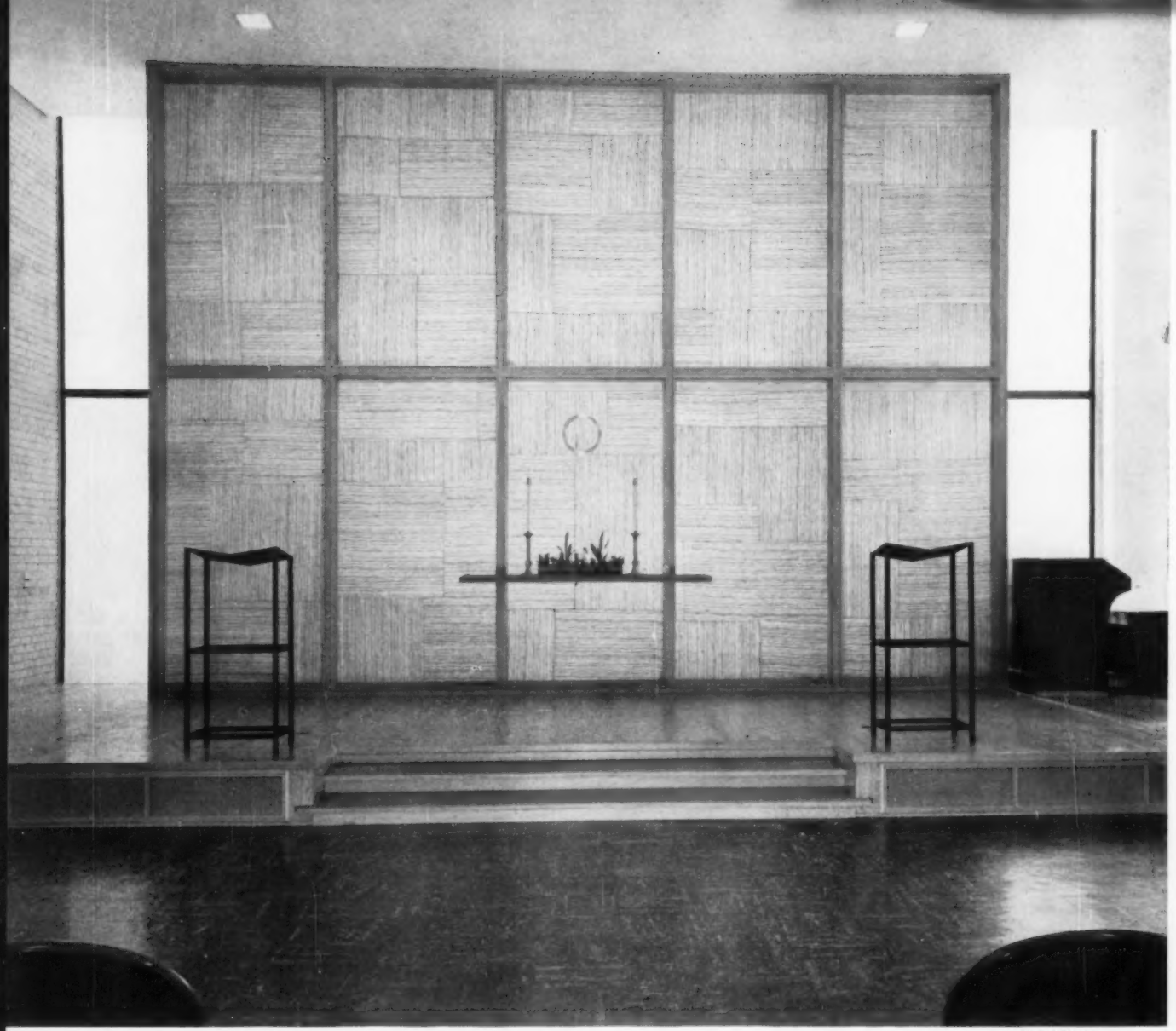
ISOMETRIC OF TOWER WALL



necessity for powerful wind bracing, provide a rhythmic accent in keeping with the rhythm of the buttressing on either side, and break the glass planes so as to achieve an animated surface which insures that the viewer will always be confronted with both a reflecting and a transparent surface.

The roof of the tower is a coffered, polychromed concrete vault with an oculus in the center through which pass the masts. The oculus is intended both to light the interior and to make visible from the interior the separation of the suspended masts from the surrounding cage. As a further expression of the tension system, two crosses are suspended centrally from the tops and bottoms of the masts. A gigantic omnidirectional one above the roof, and one in scale with the altar inside. Apart from liturgical reasons for crosses in these positions, it seems fitting that these two symbolic elements should appear to tie the whole structure together.

There are those to whom a tension system such as this seems inappropriate to a church, but I felt that such a powerful statement of modern structural possibilities was called for in order to hold its own in these surroundings, and there is after all a powerful precedent in the dome of Hagia Sophia, designed to appear hung on golden chains from heaven.



Hedrich-Blessing

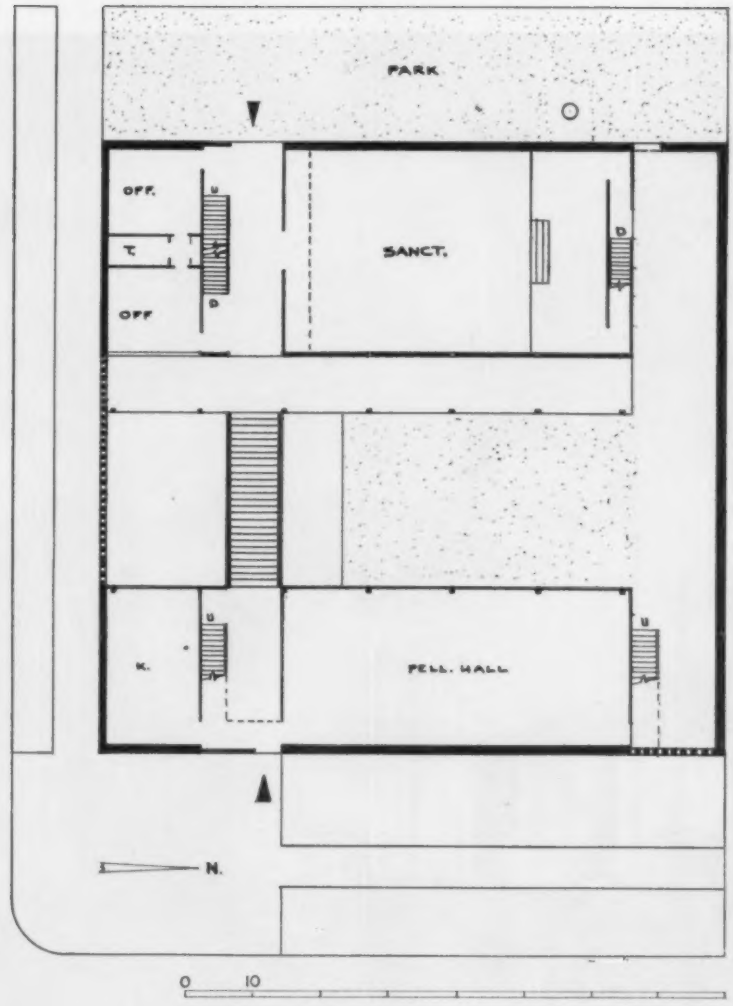
FIRST UNIVERSALIST CHURCH, CHICAGO

Schweikher, Elting and Bennett, Associated Architects
Frank Klein, Structural Engineer
Samuel Lewis Associates, Mechanical Engineers
Angelo Testa, Dossal Fabric
Ashland Construction Co., General Contractor

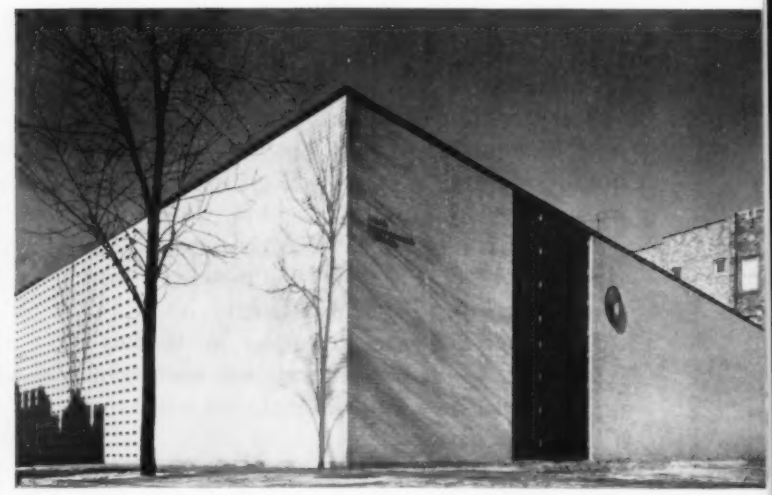
THE FORM OF THIS CHURCH is a response to a non-creedal, liberal congregation's needs on a restricted, urban site.

Seating for 140 in the sanctuary, 20 in the choir and 40 in the balcony accommodates the relatively small membership of the only Universalist Church in Chicago.

Solution to the problem of shutting out the confusion of the city without repelling the public was found in surrounding what is actually a pair of buildings with a brick wall which in part forms the building exterior.


PARK
OFF.
T.
OFF
SANCT.
K.
FELL. HALL
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Hedrich-Blessing

An invitation to the passerby is offered through the two large glass areas and the open brickwork.

The building's overall character may be well understood against the background of quotations from a statement on Universalism by the church minister, David H. Cole:

"Truth comes from many sources, chiefly through use of the scientific method rather than solely from Biblical authority.

"Universalists are unitarian in theology, revering Jesus as an inspirational leader, human as other men, and divine in the sense that all men are divine.

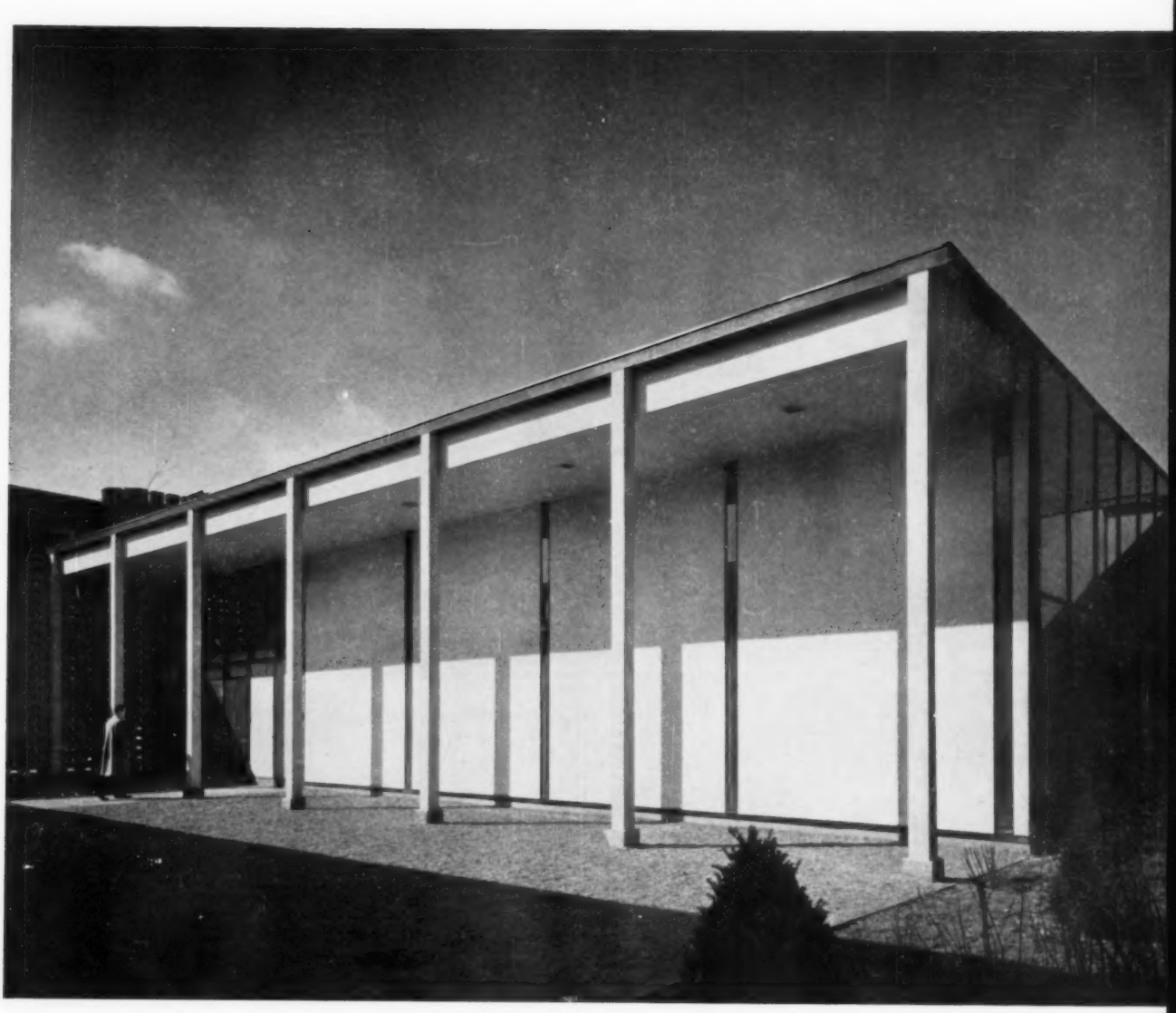
"Salvation for Universalists is a matter of growing toward individual maturity and working together for a democratic society of brotherhood and peace."

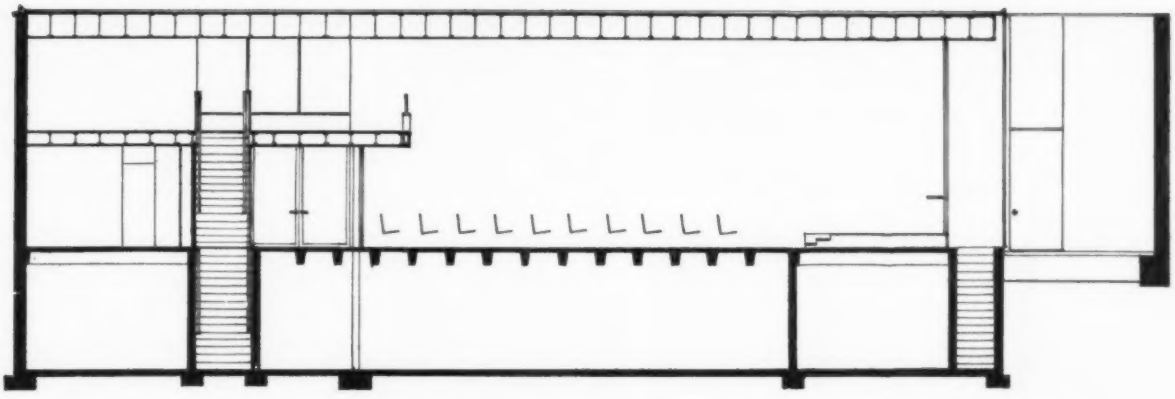
Structural system consists of bar joist floors and roofs carried on bearing walls of cavity insulated brick and on steel columns.

Major materials are Belden brick, concrete slabs, gypsum roof decks and plaster or stucco screen walls.

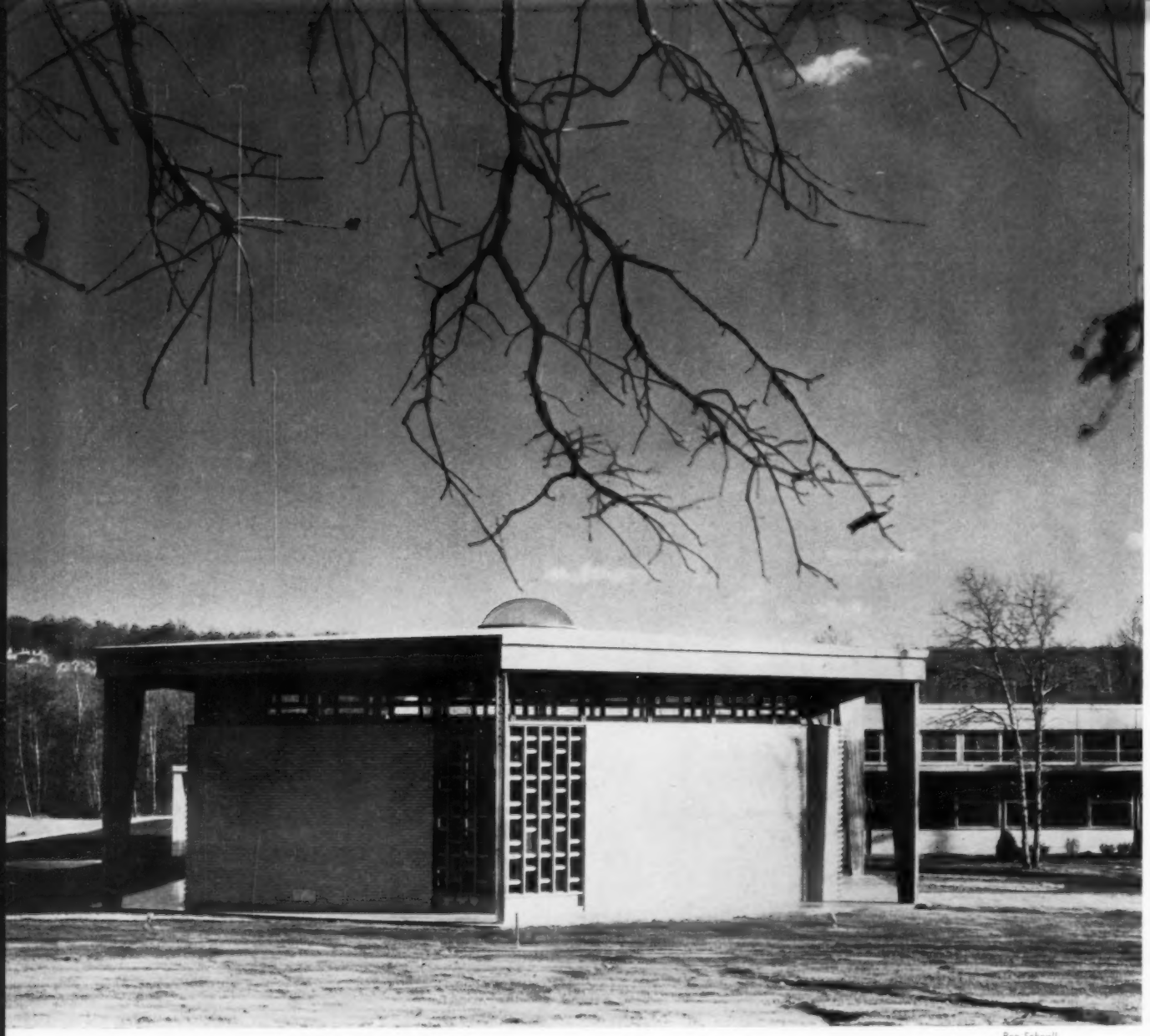
Heating from a single boiler is by forced warm air in sanctuary and offices and finned tube steam radiation elsewhere.

Square foot area of the building is 10,430; cubage: 121,970. Completed in 1955 the cost was $135,000.






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Ben Schnall

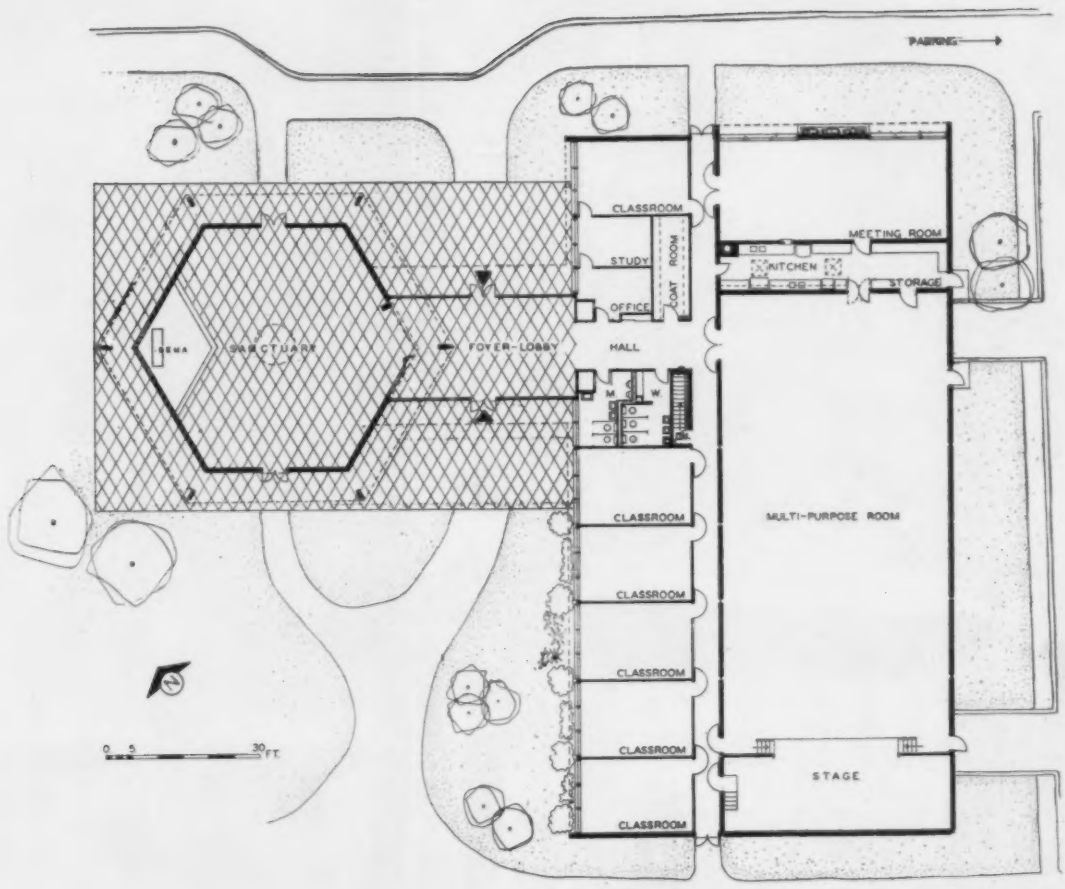
JEWISH CENTER OF WEST ORANGE, N. J.

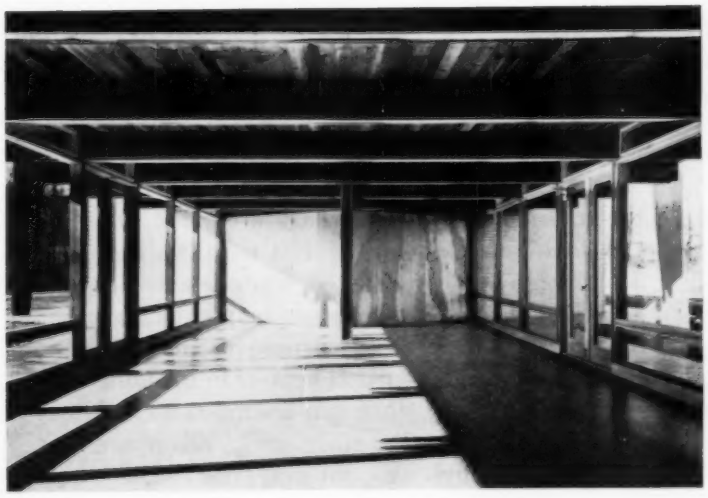
Davis, Brody, Juster & Wisniewski, Architects
Beck, Simon and Mantel, Structural Engineers
G. Robert Goodall, Site Consultant

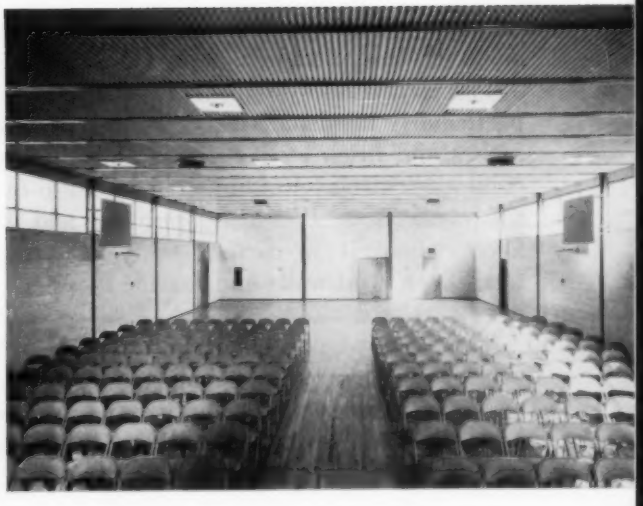
THIS BUILDING IS actually a community center in which religious, educational, and social facilities have been provided for round-the-week use.

Principal problems were organization of the various functions into an economical and flexible building and the creation of a religious atmosphere for the chapel distinctly apart from the rest of the building's uses.

The chapel seats 250 and is expandable to 350 by using the foyer. The multi-purpose room — normally employed for social and edu-


PARKING
CLASSROOM
STUDY
OFFICE
COAT ROOM
MEETING ROOM
KITCHEN
STORAGE
NAVE
SANCTUARY
FOYER-LOBBY
HALL
M
W
CLASSROOM
CLASSROOM
CLASSROOM
CLASSROOM
MULTI-PURPOSE ROOM
STAGE
0 5 30 FT.







Ben Schnall

cational gatherings — can seat 750 for religious services on the High Holy Days.

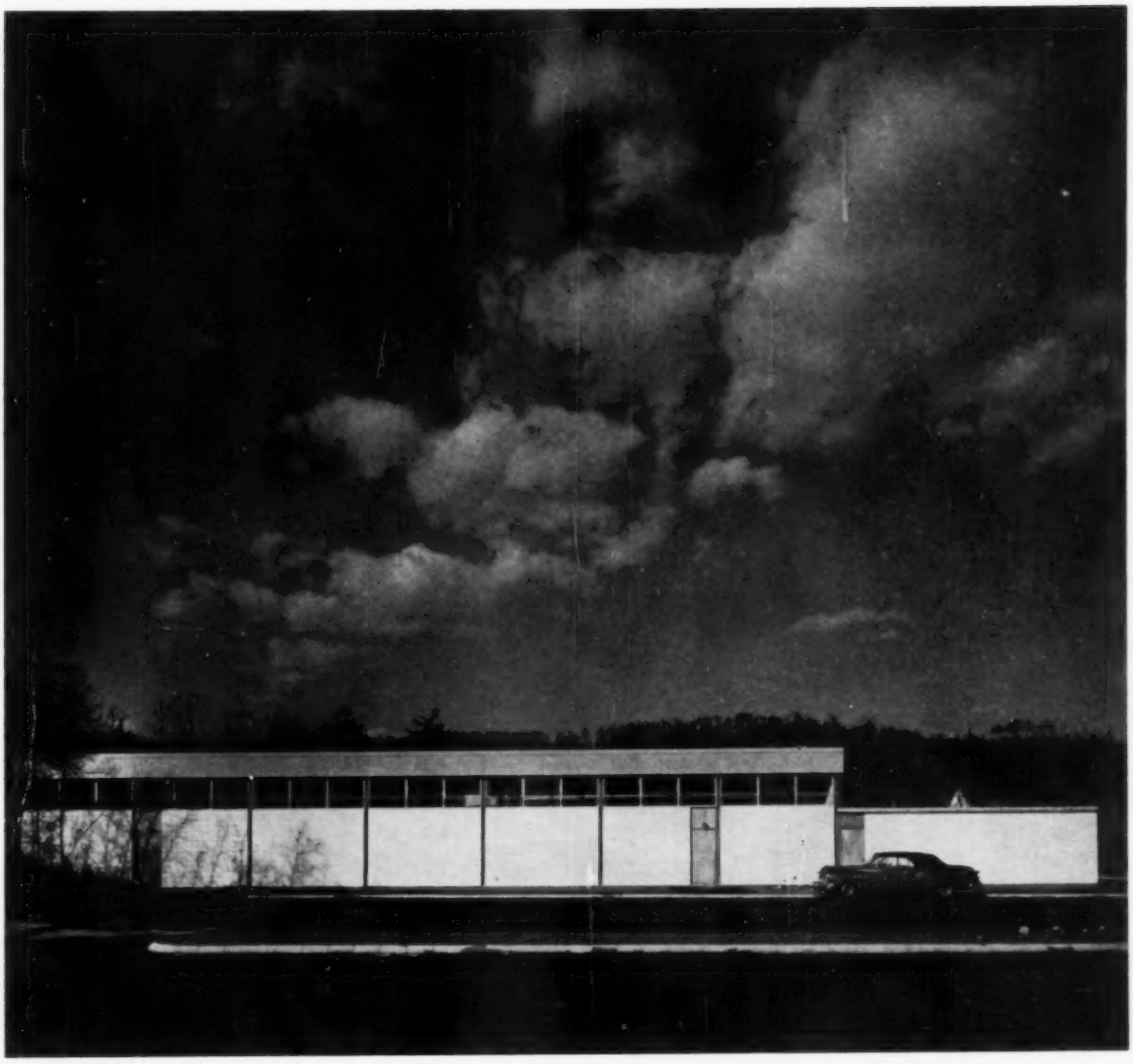
The structural system in the chapel makes particularly handsome use of laminated wood arches and brick cavity walls. The roof here employs 4″ wood decking as it does also over the classrooms, the meeting room and the foyer where it is carried on wood beams bearing on stud walls and marble faced block cavity walls.

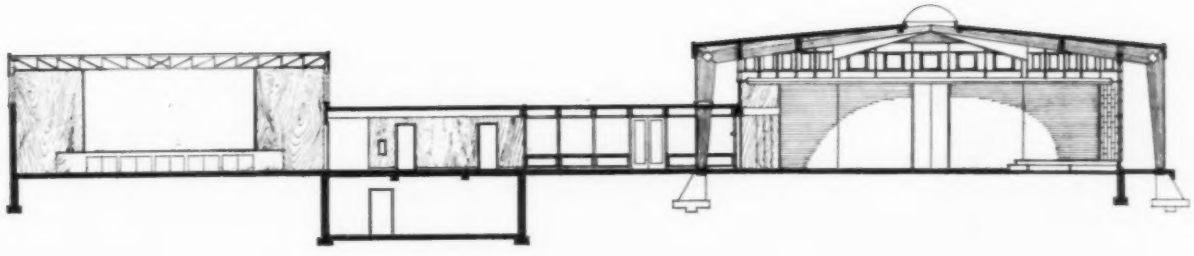
The multi-purpose room is framed in steel using long span joists, composition decking and marble faced block cavity walls. As used here, the white marble faced block is an economical and attractive material.

Other principal materials are the buff manganese spot brick used inside and out in the chapel which has a wood ceiling and terrazzo floor. The same ceiling and floor materials are used in the foyer.

In the classrooms mahogany plywood faces the interior walls, the ceilings are wood and the floors are asphalt tile. The multi-purpose room uses a hung, perforated, white-enamelled, aluminum acoustic ceiling and maple flooring.

Heating in the multi-purpose room is by means of six hot water unit heaters in the hung ceiling, delivering through anemostats and fan-exhausted at the stage end. Elsewhere heating is through wrought iron floor coil.







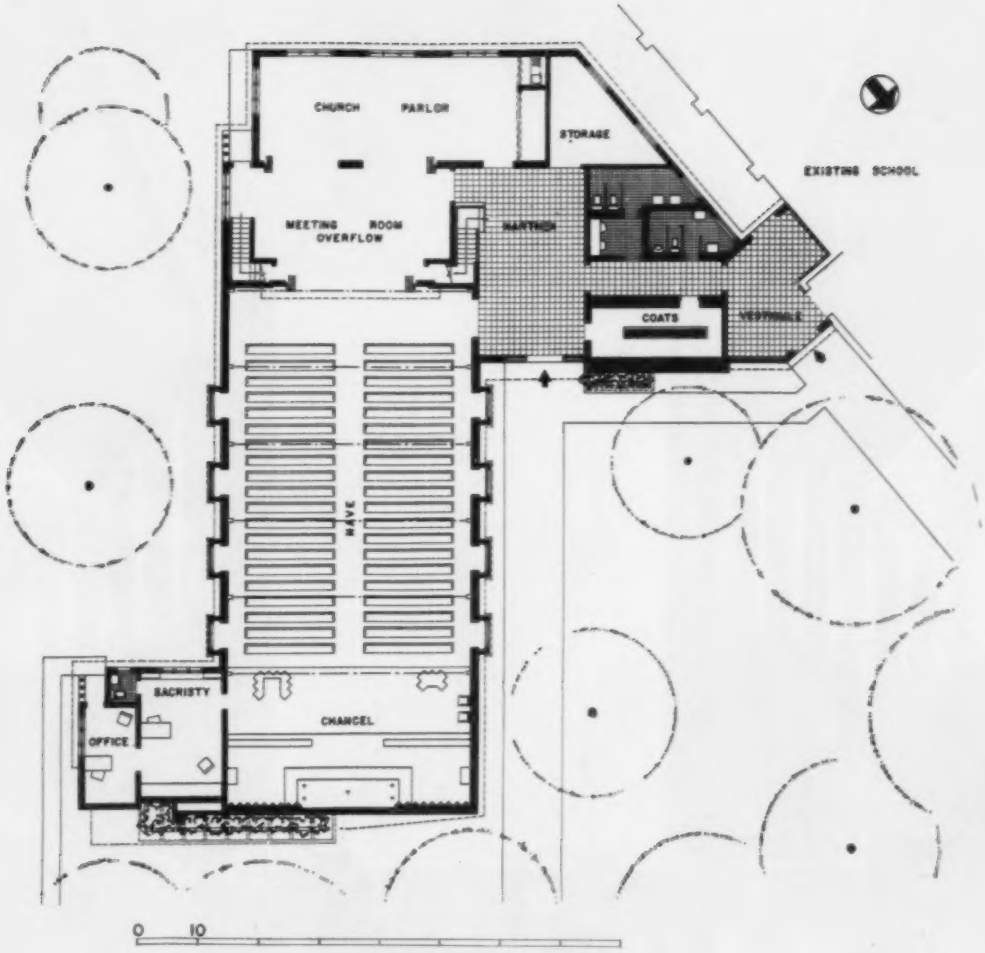
Hedrich-Blessing

ST. ANDREW'S CHURCH, PARK RIDGE, ILL.

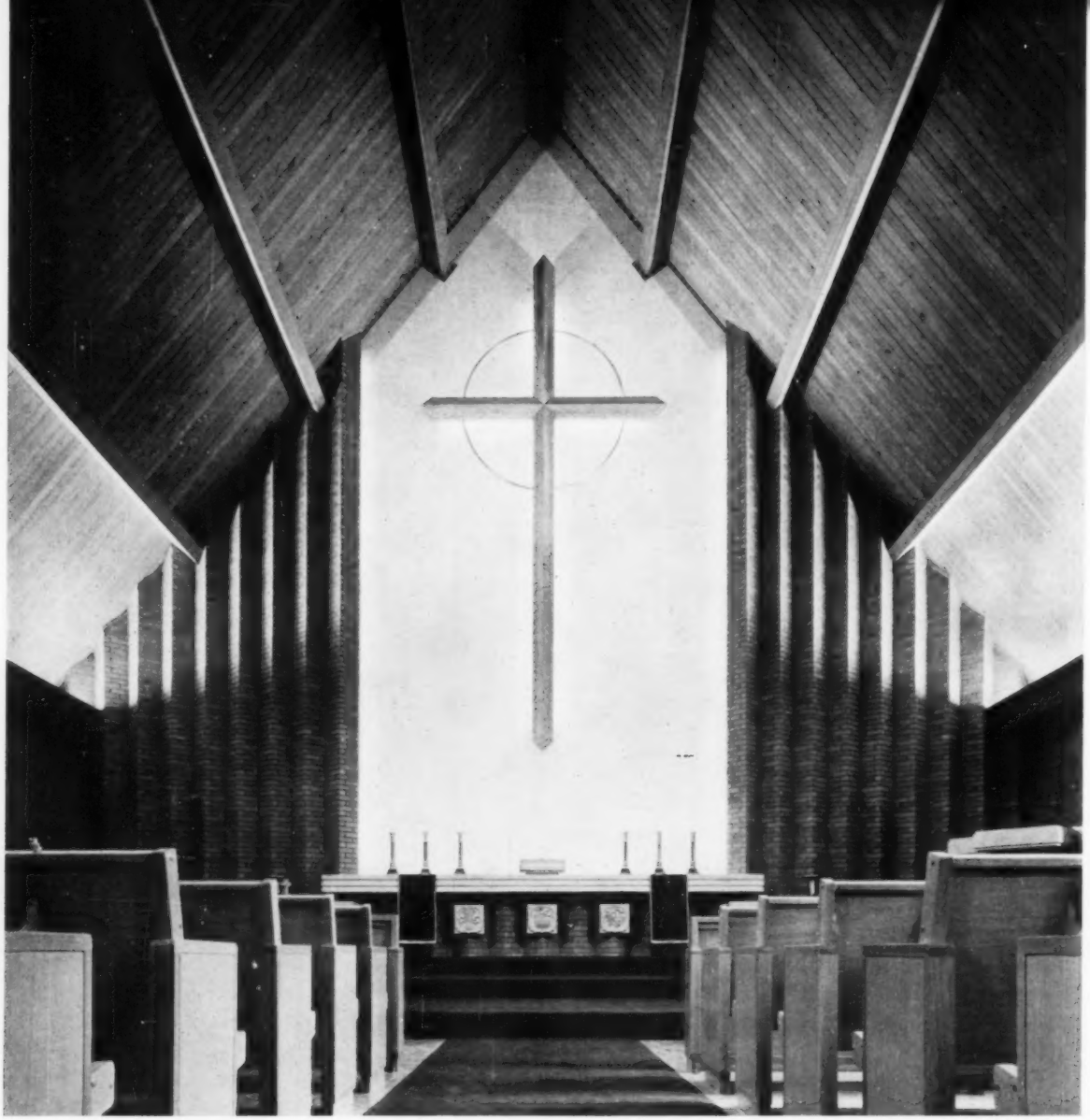
Charles Edward Stade & Associates, Architects
M. Dolan and H. Anderson, Associated Architects
Dr. A. R. Kretzmann, Liturgical Consultant
John Torell, Sculptor
Clark Engineering Co., Mechanical Engineers

THIS SUBURBAN LUTHERAN church is a carefully detailed and well executed example of an approach to design which is on the generally conservative side of current efforts. Serving a middle-sized congregation, the combined seating totals 590 using both the meeting area at the rear of the nave and the church parlor as overflow areas.

The site is a level, corner lot, pleasantly shaded by maturing trees and generally free of difficult design determinants except for a busy highway that influenced the retired posi-


CHURCH PARLOR
STORAGE
EXISTING SCHOOL
MEETING ROOM OVERFLOW
NARTHEX
COATS
VESTIBULE
NAVE
SACRISTY
OFFICE
CHANCEL
0 10





Hedrich-Blessing

tion of the main entrance. The total effect of the natural, and unusually rich, materials is most effective.

The roof structure is of exposed laminated trusses, purlins and beams carrying 2″ x 6″ T & G "V" joint fir planking. Walls are generally of face brick on both exterior and interior. Roof surface is asbestos shingle.

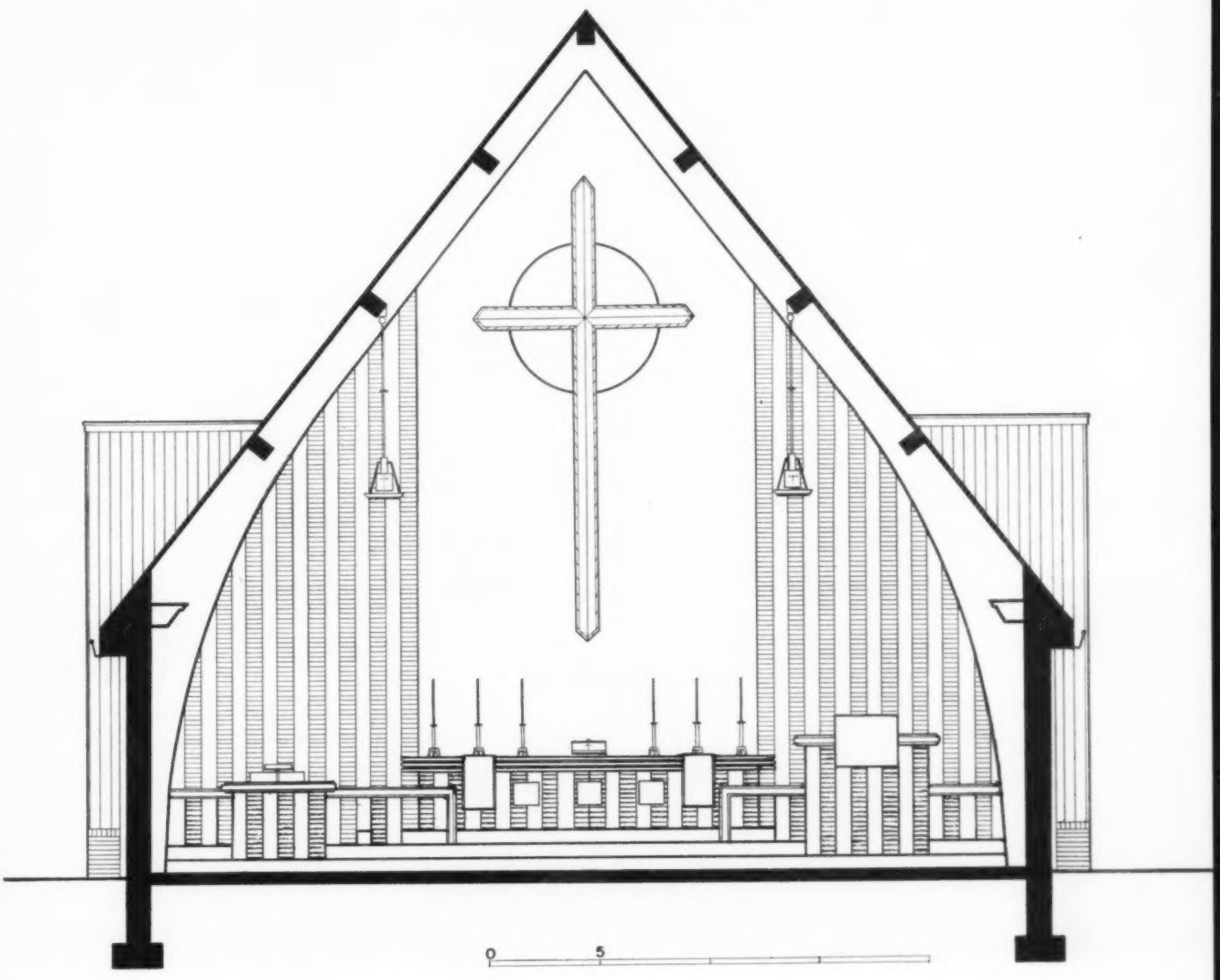
Cathedral glass is used in the high windows of the nave. Artificial illumination is furnished from concealed cove lighting and the suspended brass fixtures.

The architects have tried to focus principal attention on the large brick and stone altar and on the 21 ft carved oak cross. The three plaques at the foot of the altar are also of oak as is the panelling in the sacristy.

The reinforced concrete slab floors are finished with asphalt tile. Sash, frames and doors are in wood; gutters, downspouts and flashing are copper. Rigid insulation is used in both exterior walls and on the roof. The exterior siding is redwood and in common with all wood surfaces inside and out is merely stained and protected. Some color accent is used under the eaves and on the doors.

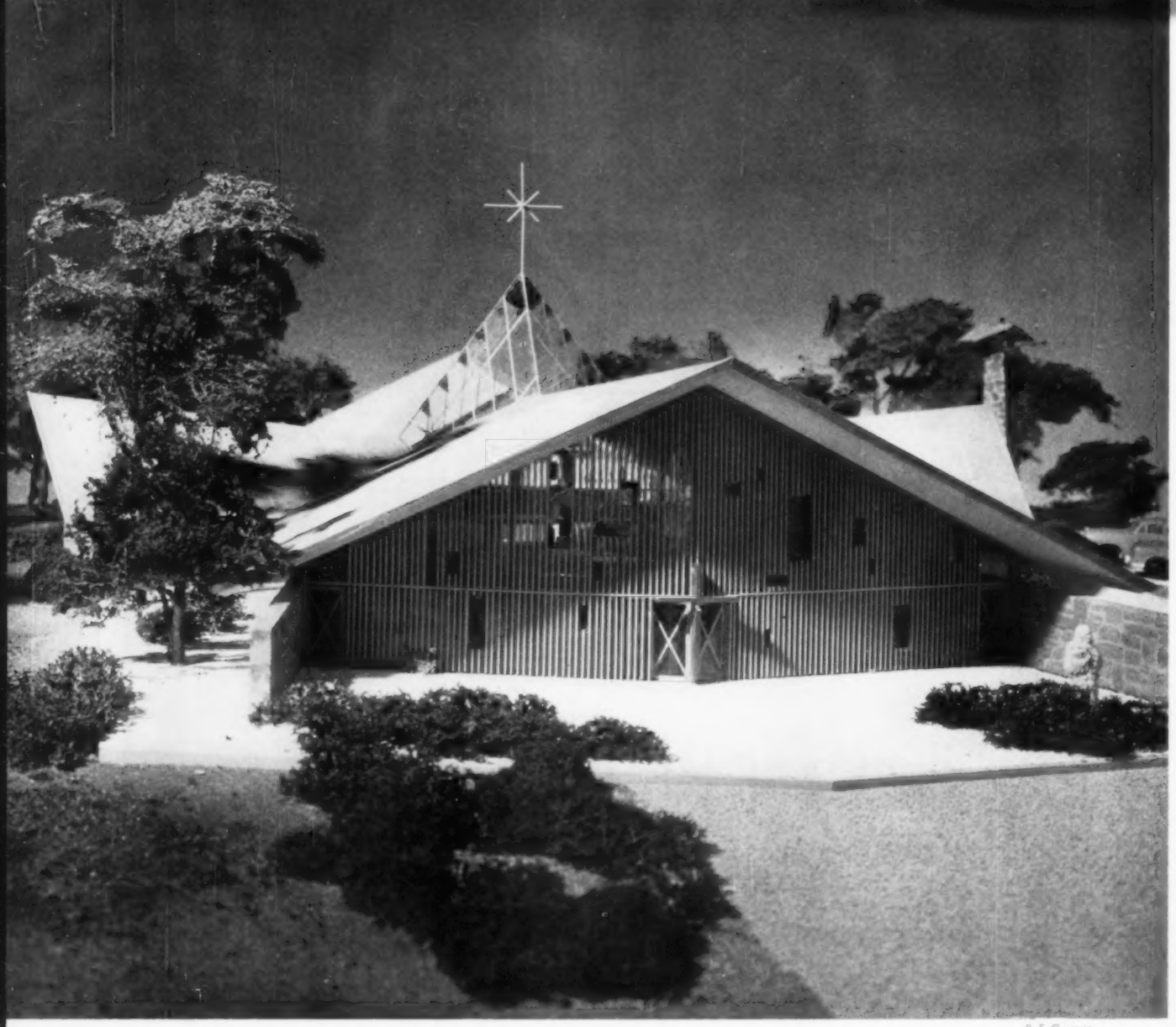
Heating is by means of an oil-fired boiler; radiant hot water coils in a floor slab installation combined with wall convector radiation.

Total cost of the building was $151,000.


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P. E. Guerrero

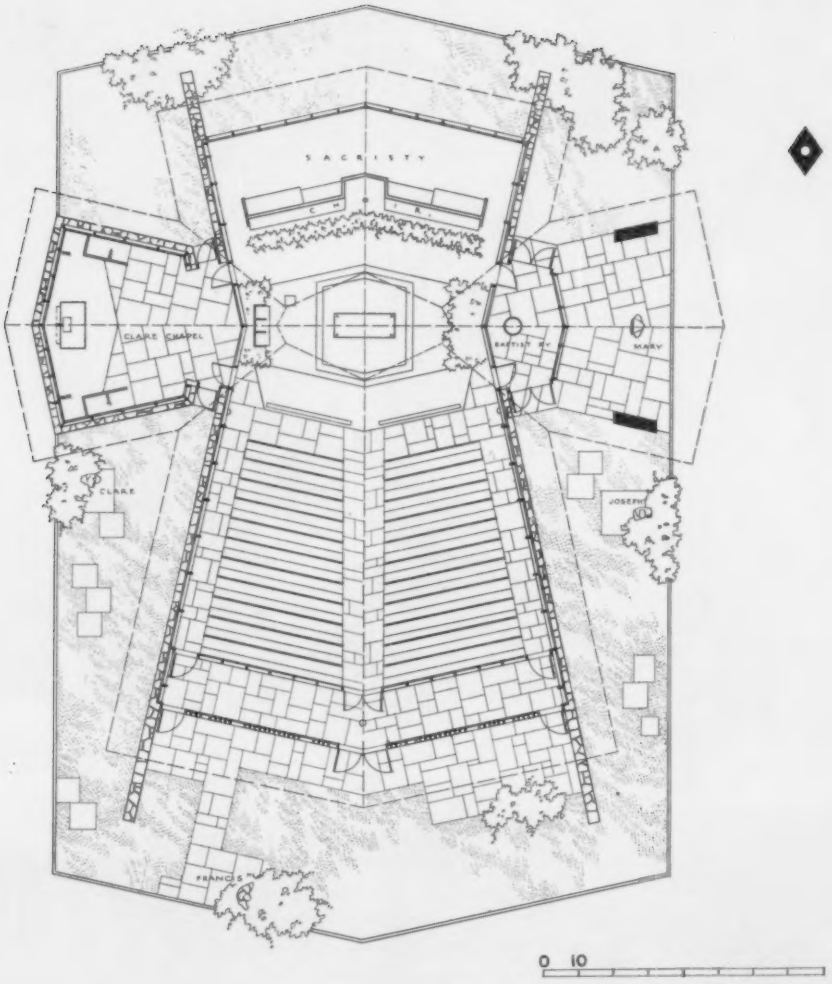
ST. FRANCIS OF ASSISI CHURCH, WESTON, CONN.

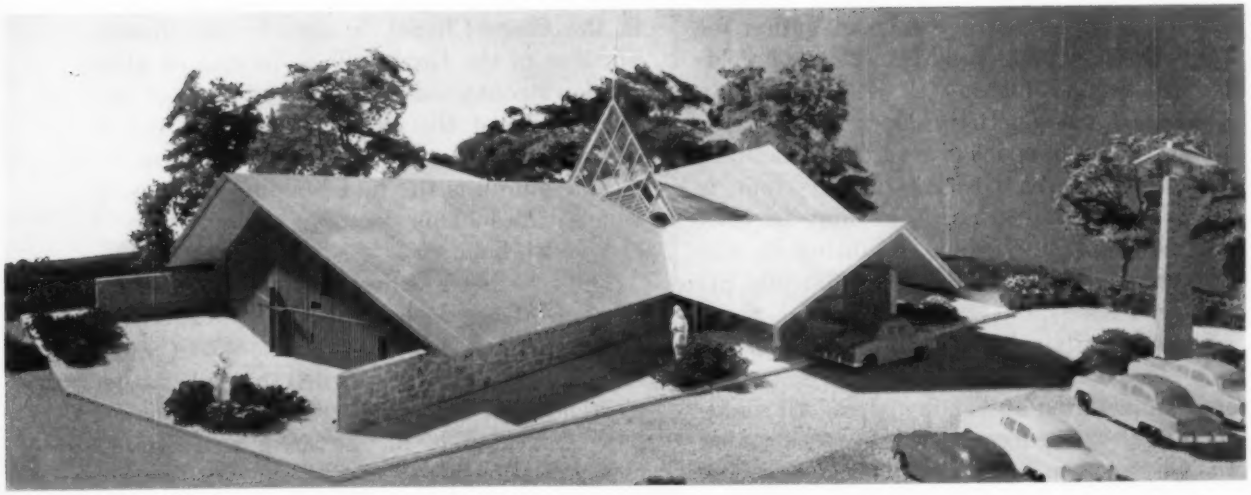
Joseph Salerno, Architect
James Fanning, Landscape Architect

THE CENTRAL FACT of Catholic worship is the altar, the table of sacrifice. In this church, the aim has been to express this idea as clearly and emphatically as possible. Roof and wall all incline toward the center. The variations in natural and artificial light help to accomplish the same thing with the brightest source in the glass steeple over the altar.

Since nowhere does the roof rest directly on the walls the sense of a floating ceiling is provided.

The orientation of the building provides


SACRISTY
CLARE CHAPEL
MARY
JOSEPH
CLARE
FRANCIS
0 10





P. E. Guerrero

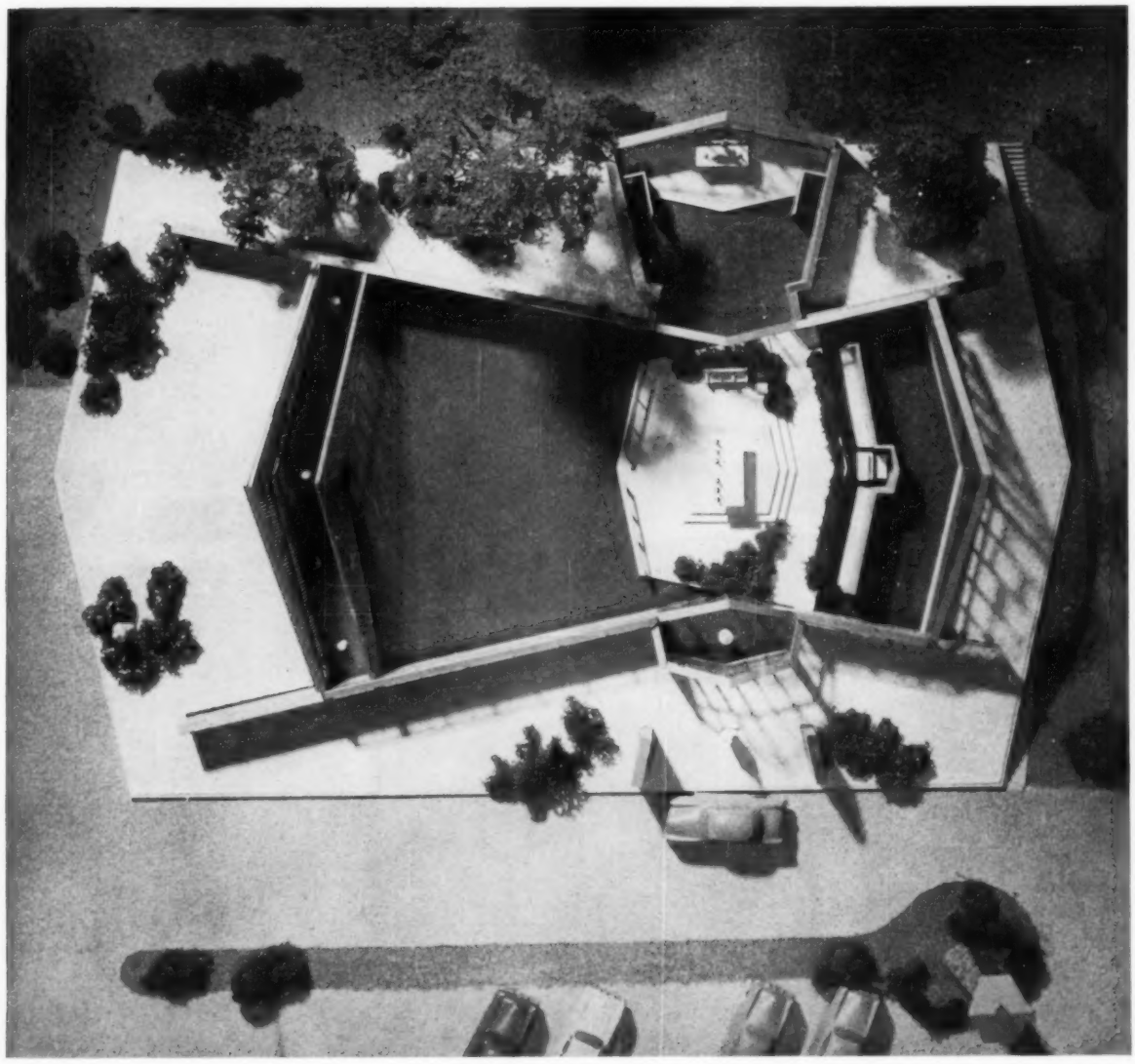
light from the back of the congregation for morning Mass. The subdued colors of fieldstone and wood contrast with the white granite of the altar and sanctuary floor.

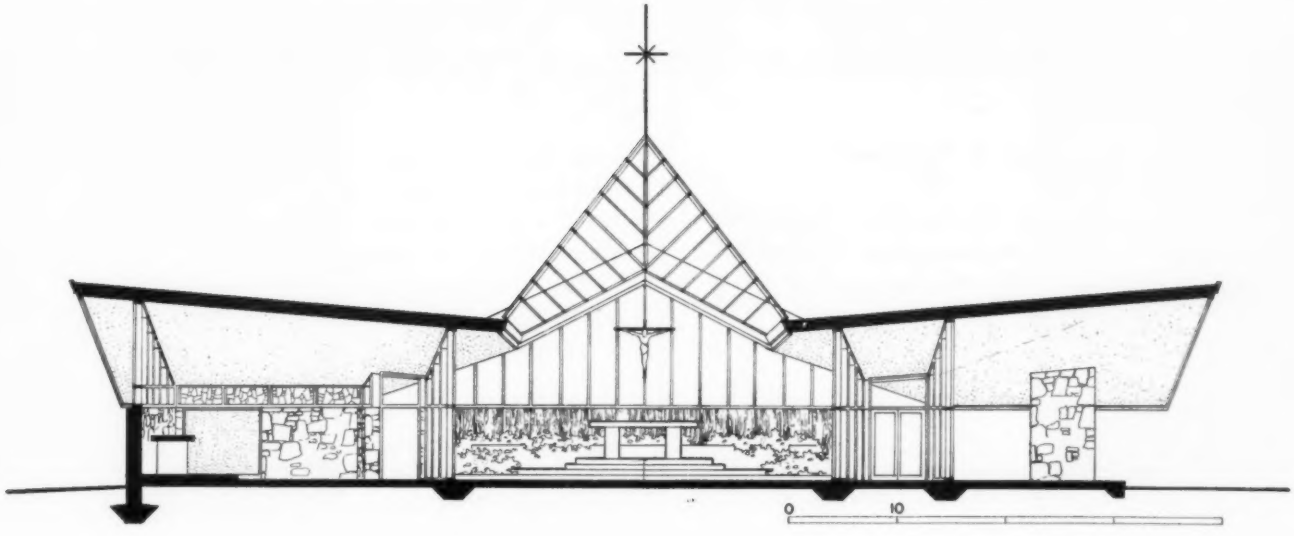
The amount of space given to the sanctuary and the liturgical position of the choir is unusual, and interesting. Mass may be celebrated facing the people. Planting in the sanctuary is in honor of the patron, St. Francis of Assisi.

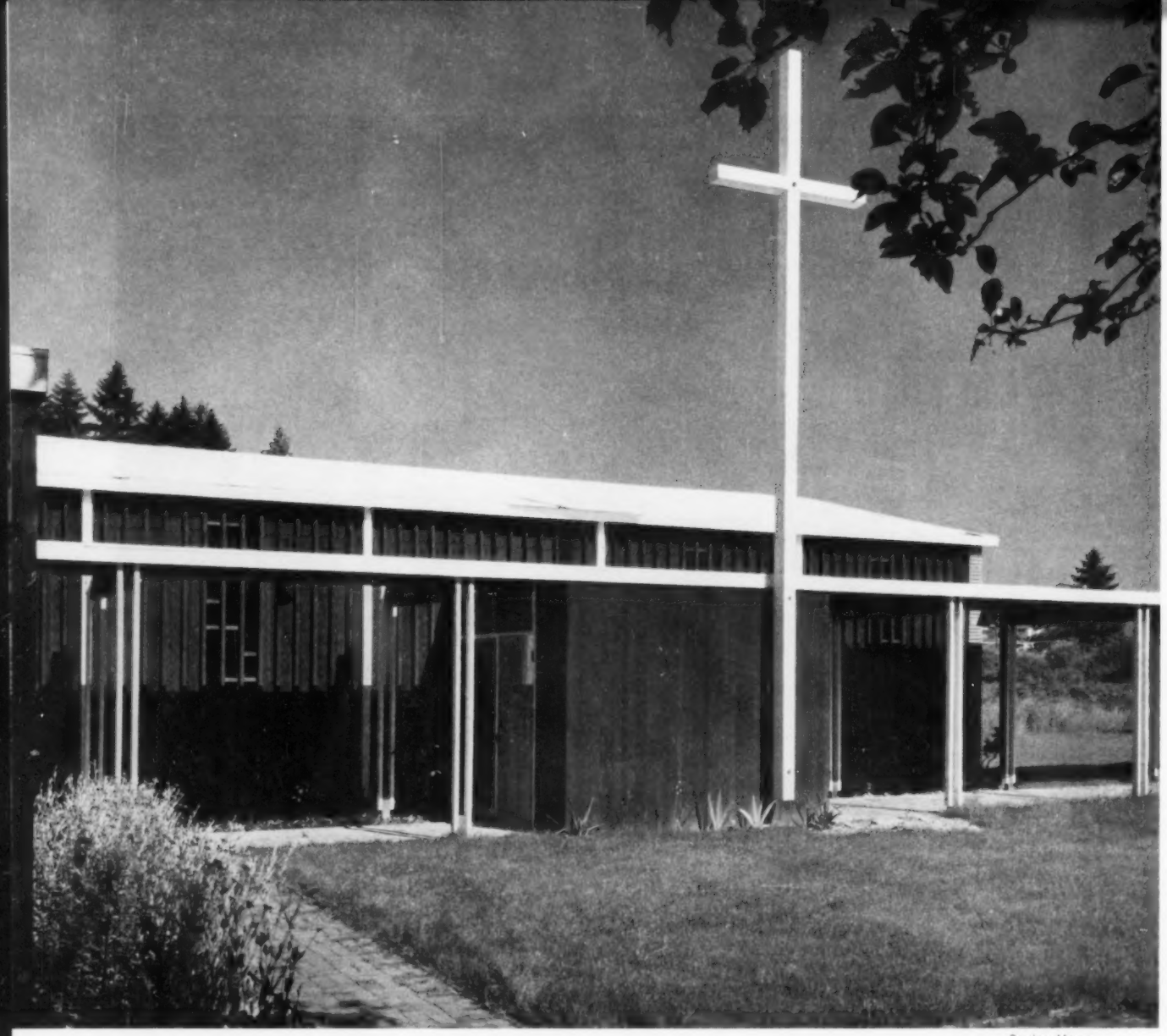
The Clare Chapel serves for reservation, for daily Mass, small weddings, for confession and for small children at Sunday Mass. All sculpture, with the exception of the suspended crucifix over the main altar and the crucifix in the Clare Chapel, is outside the church. Stations of the Cross will be in stained glass windows contained in the seven bays of the main body of the church. The east wall is designed to be demountable for expansion.

The church is the first building in a group which will include rectory, convent, school and parish hall.

The building was designed under the direction of Msgr. Joseph F. Cleary of Sacred Heart Church in Georgetown, Conn., and his cooperation, along with that of Father Corrigan and Bishop Sheehan of Bridgeport has been notable in the area of architect-clergy relationships.




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Dearborn-Massar

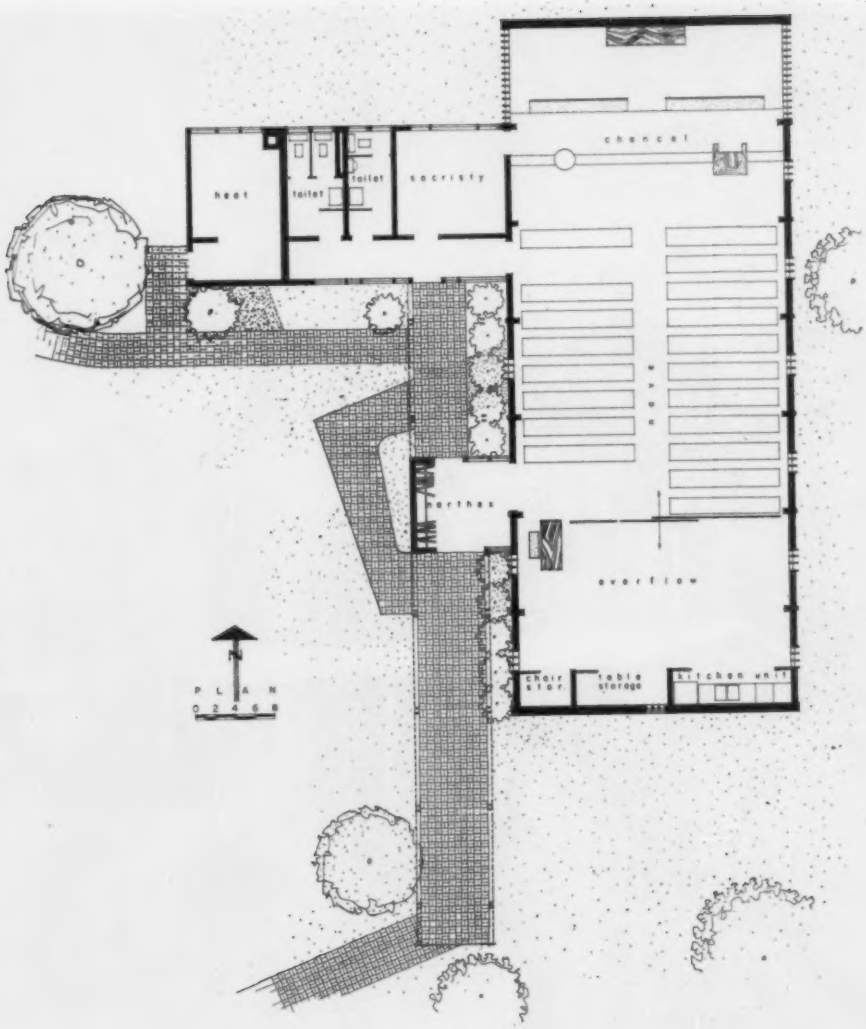
PILGRIM LUTHERAN CHURCH, BELLEVUE, WASH.

Grant, Copeland & Chervenak, Architects
Stern & Towne, Mechanical Engineers
Howard Johnson, Electrical Engineer
R. C. James, General Contractor

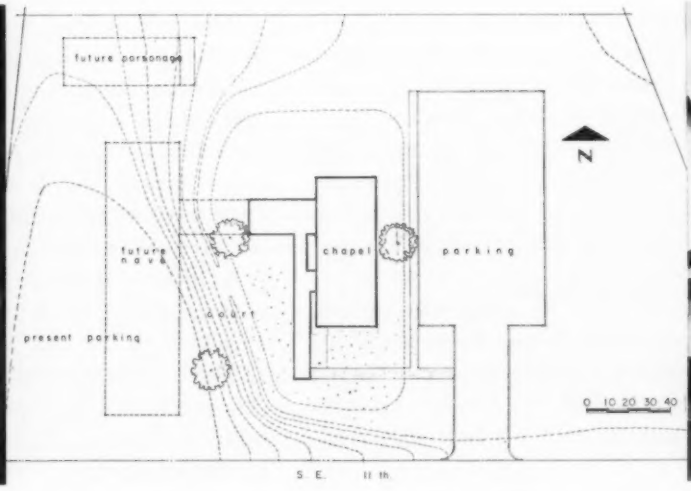
THE PROBLEM HERE involved the design of a building for a new mission congregation in a rapidly growing residential area on the eastern shore of Lake Washington.

The trapezoidal site is about one mile from a small business district and because it is relatively low-lying demanded a membrane slab.

On a budget of $30,000 the architects were asked to provide seats for about 140 and some method of handling overflow attendance. Here, as in many formative congregations, the archi-


chancel
heat
toilet
toilet
sacristy
narthex
overflow
chair stor.
table storage
kitchen unit
PLAN
0 2 4 6 8




future parsonage
future nave
chapel
parking
present parking
court
N
0 10 20 30 40
S. E. 11 th.





Dearborn-Massar

tects had to design a suitable worship space that would, in time, become an all-purpose parish hall and educational facility. For the time being all activities take place in the temporary nave and are organized by means of a large screen which rolls forward to permit parish activities in the rear and by L-shaped nesting screens which divide classroom spaces there.

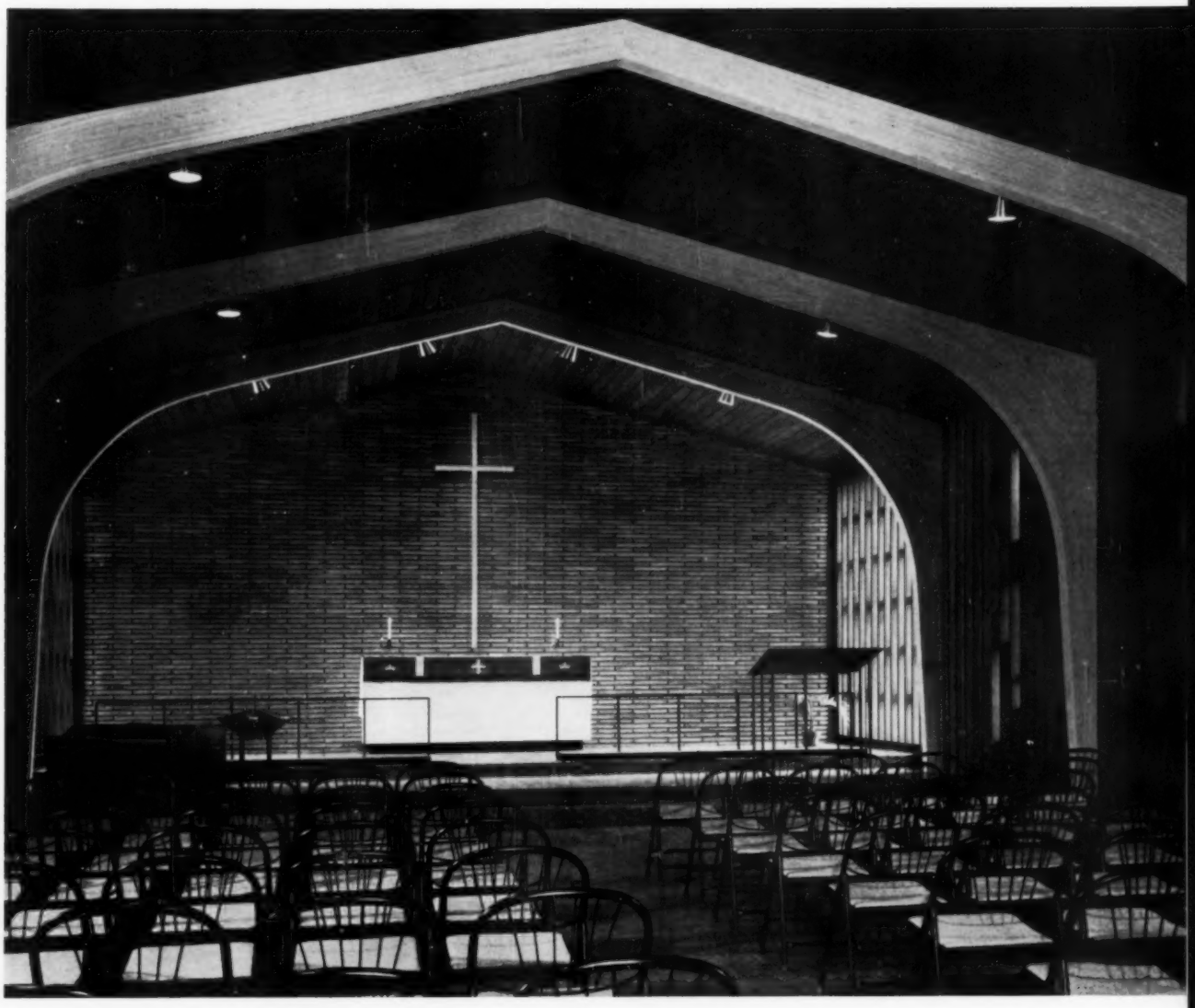
The structure consists of glued-laminated arches with 3 x 6 fir "V" joint wood decking for the ceiling and roof construction. Nave walls are 2 x 6 studs with 1 x 8 cedar boards both inside and out where 2 x 3 battens cover the joints.

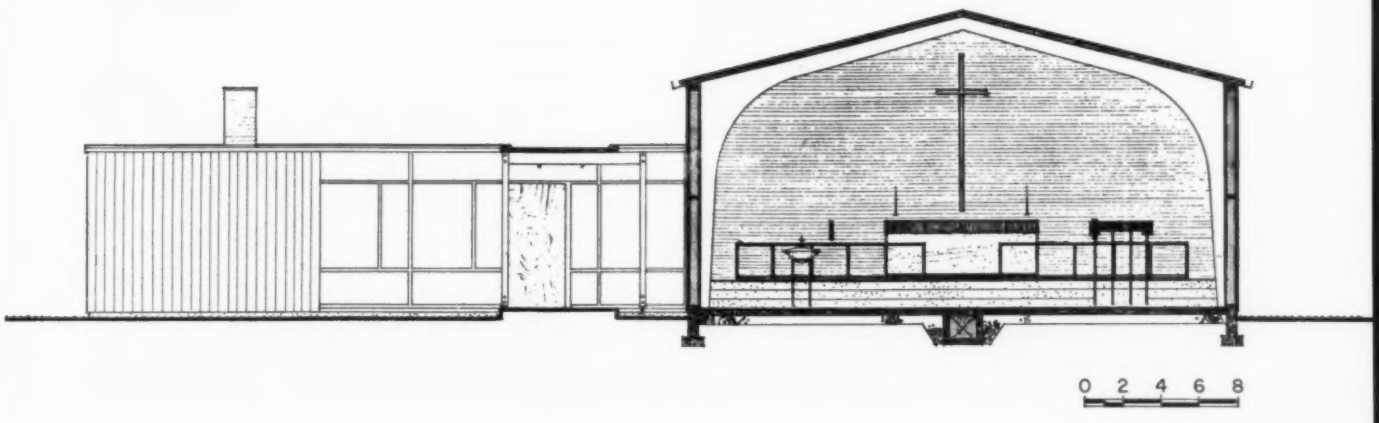
The full height nave windows are glazed in reds, greens, blue-greens and purples.

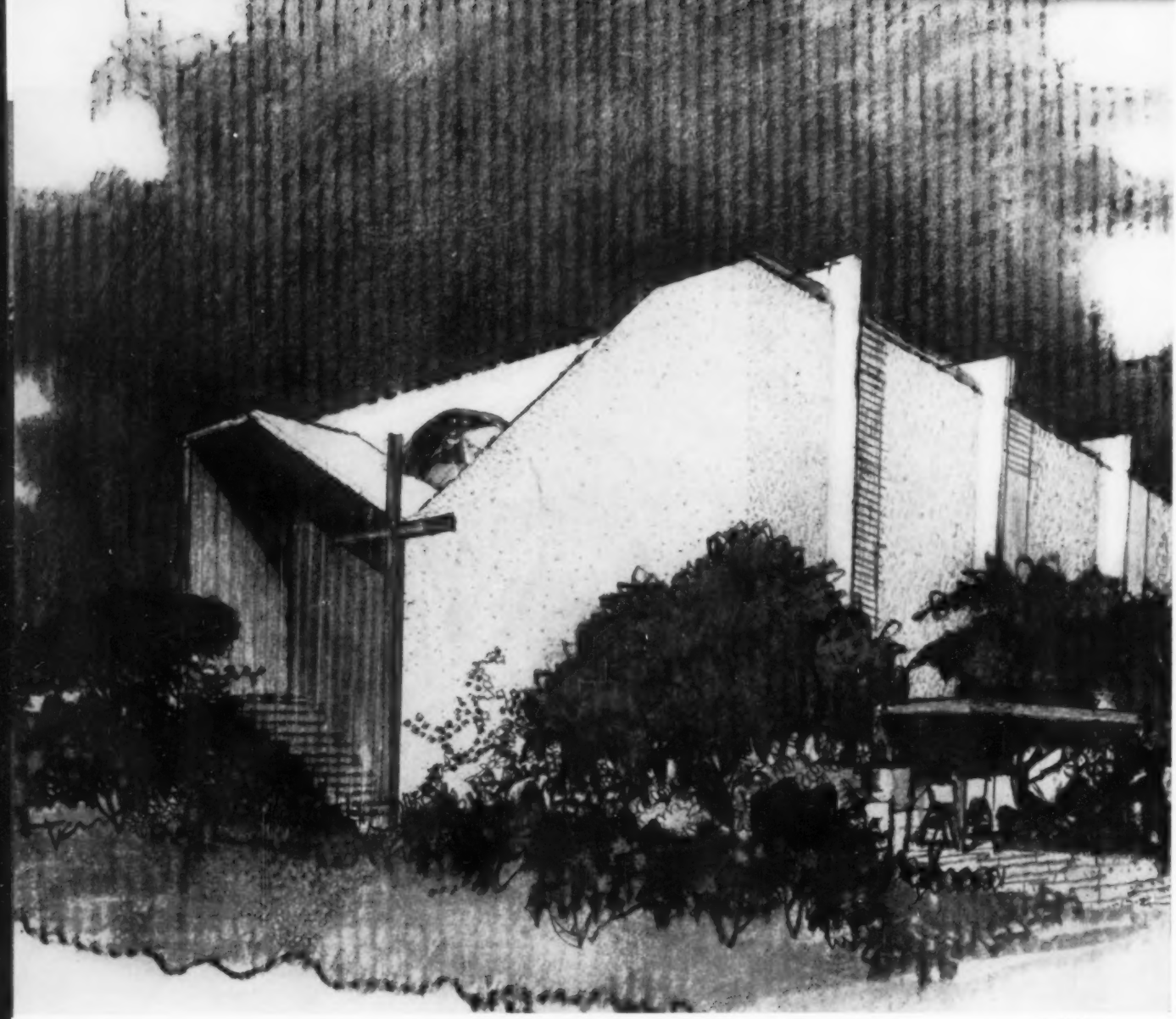
Interior colors are stained shades of brown and ivory, accented by the dull black mild steel elements of the communion rail, font and pulpit whose top is white birch. The font is cast stone with a spun copper cover and a copper cross. The altar is faced with travertine.

Exterior siding is stained a warm brown with columns, trim and facias painted white. The roof is covered with white marble chips.

The contracted cost of the chapel was $28,500 or about $10.68 per sq ft. Brick sidewalks, interior staining and painting were donated by the members.




0 2 4 6 8



Julius Shulman

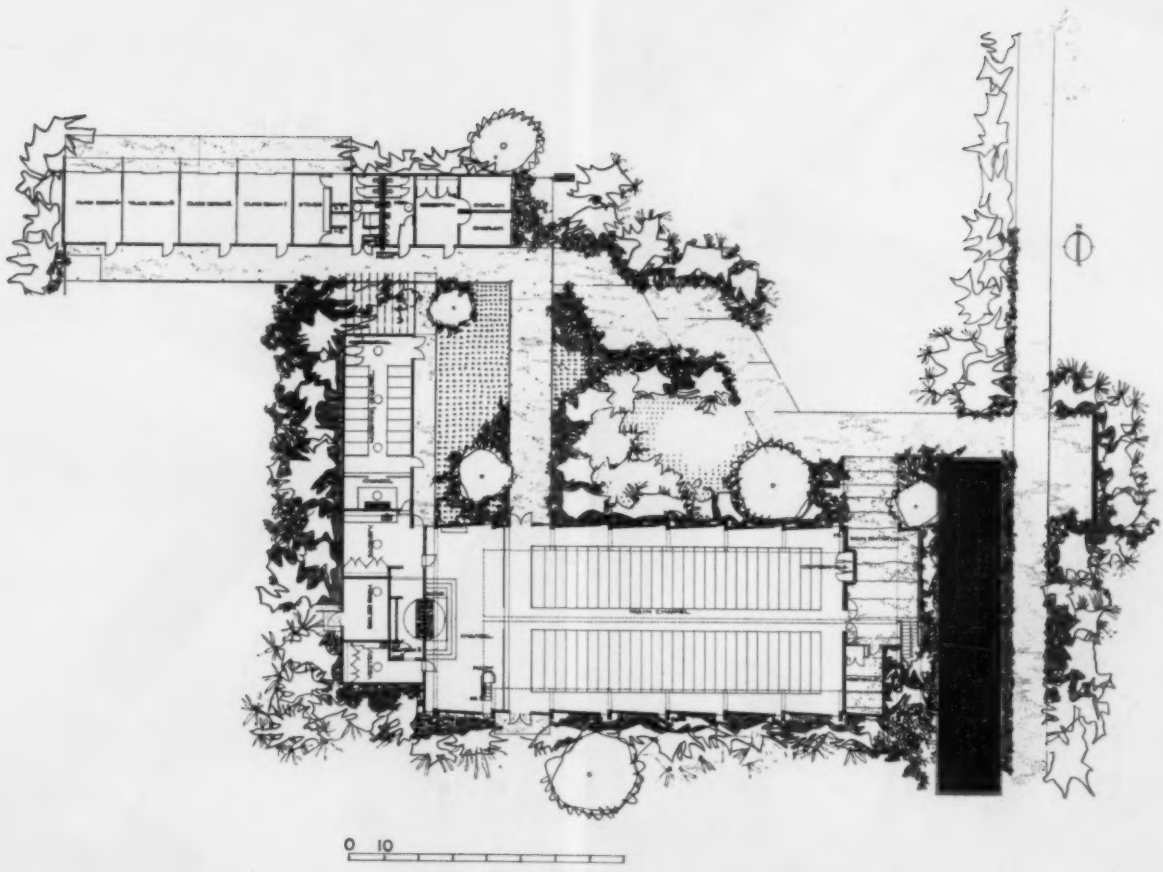
INTERDENOMINATIONAL CHAPEL, MIRAMAR, CALIF.

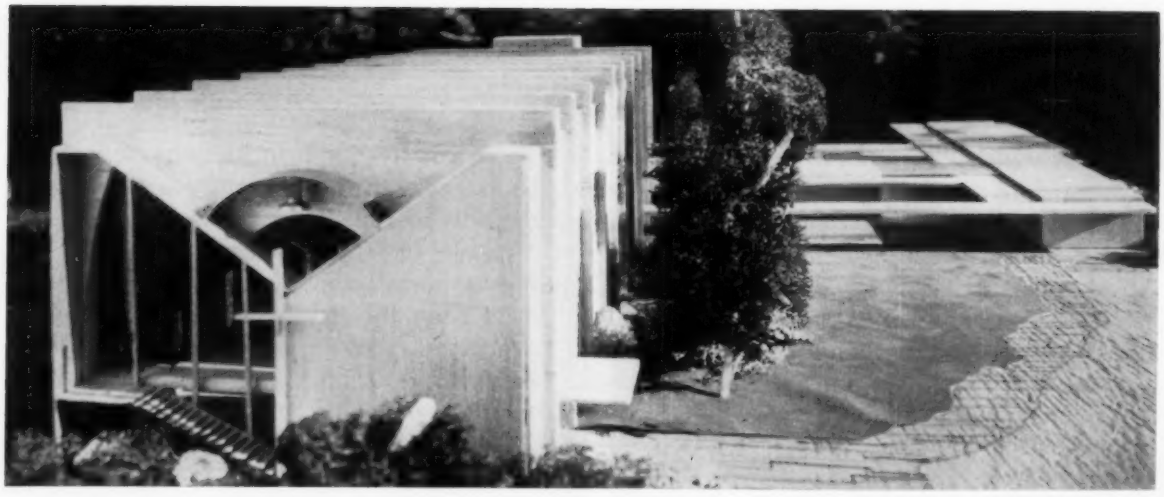
Richard J. Neutra and Robert E. Alexander, Architects
Dion Neutra, Robert Pierce, Howard Miller, Richard Stadelman, Benno Fischer, Sergei Koshin, John Blanton, Toby Schmidbauer. Perry Neuschatz, Gunar Serneblad: Collaborators
Parker and Zehnder, Structural Engrs.
Boris Lemos, Mechanical Engineer
Earl Holmberg, Electrical Engineer
D. J. Free, Acoustical Conslt.

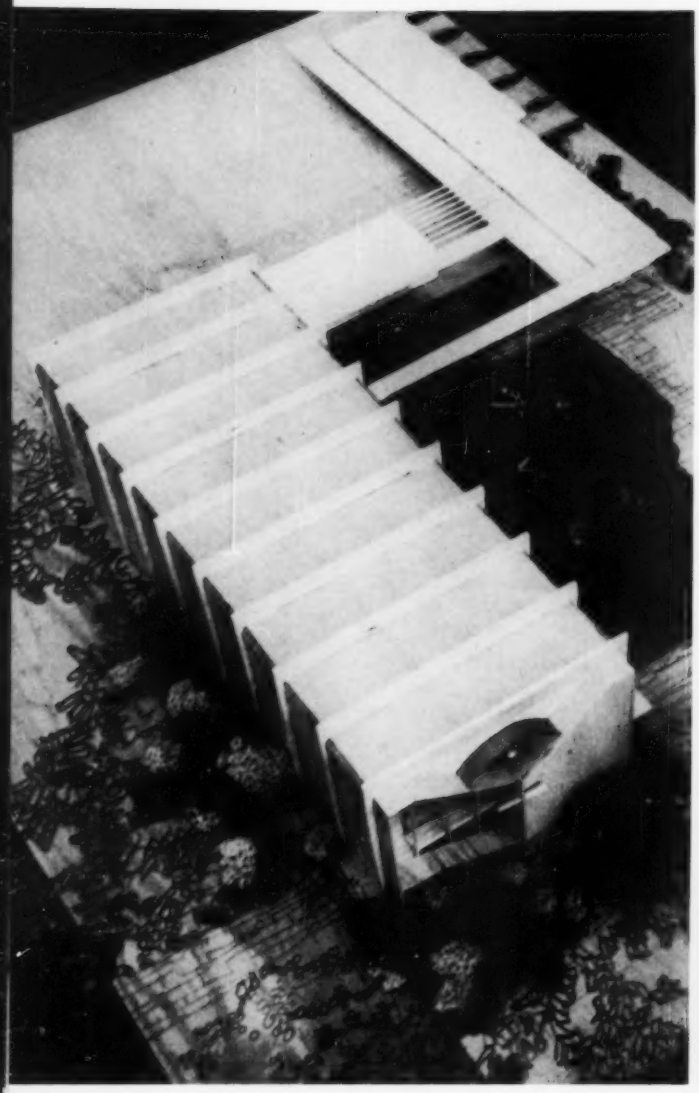
THE PROGRAM for this chapel asked for 600 seats plus an additional 120 for religious education and the morning chapel.

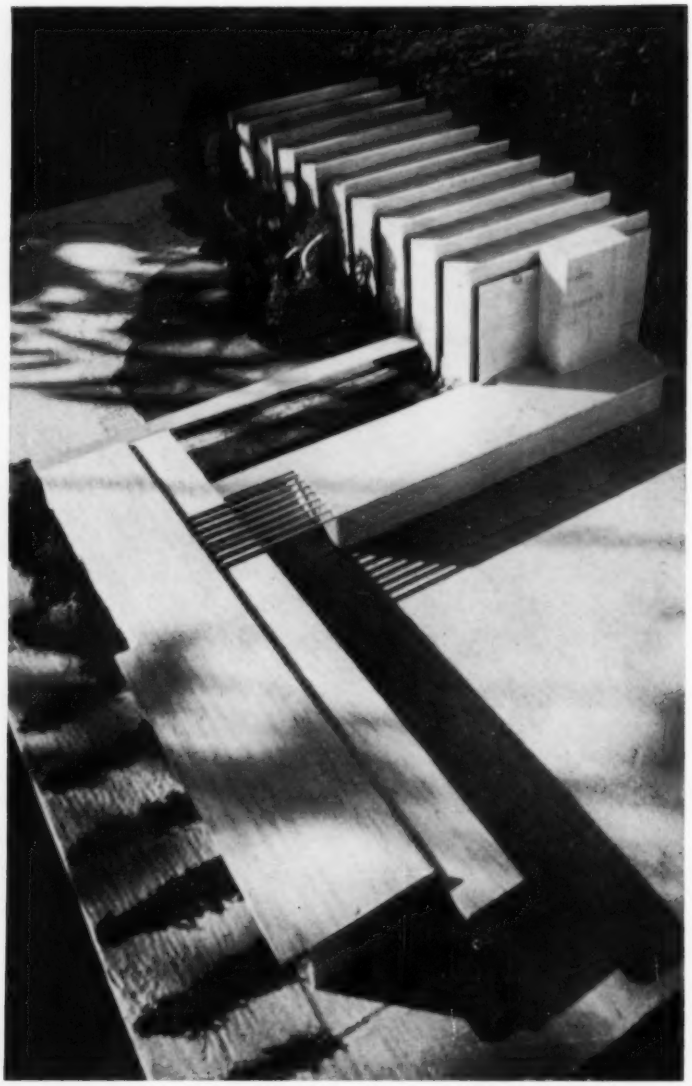
The plan was dictated by the site and by such special requirements as the rotating and disappearing altar which has been designed to serve Saturday and Sunday schedules for the interdenominational use of the community.

Structure of main chapel is of precast concrete arches and wall panels, with gypsum roof and hung plaster ceiling. Other structures are of concrete block with wood roofs.


0 10







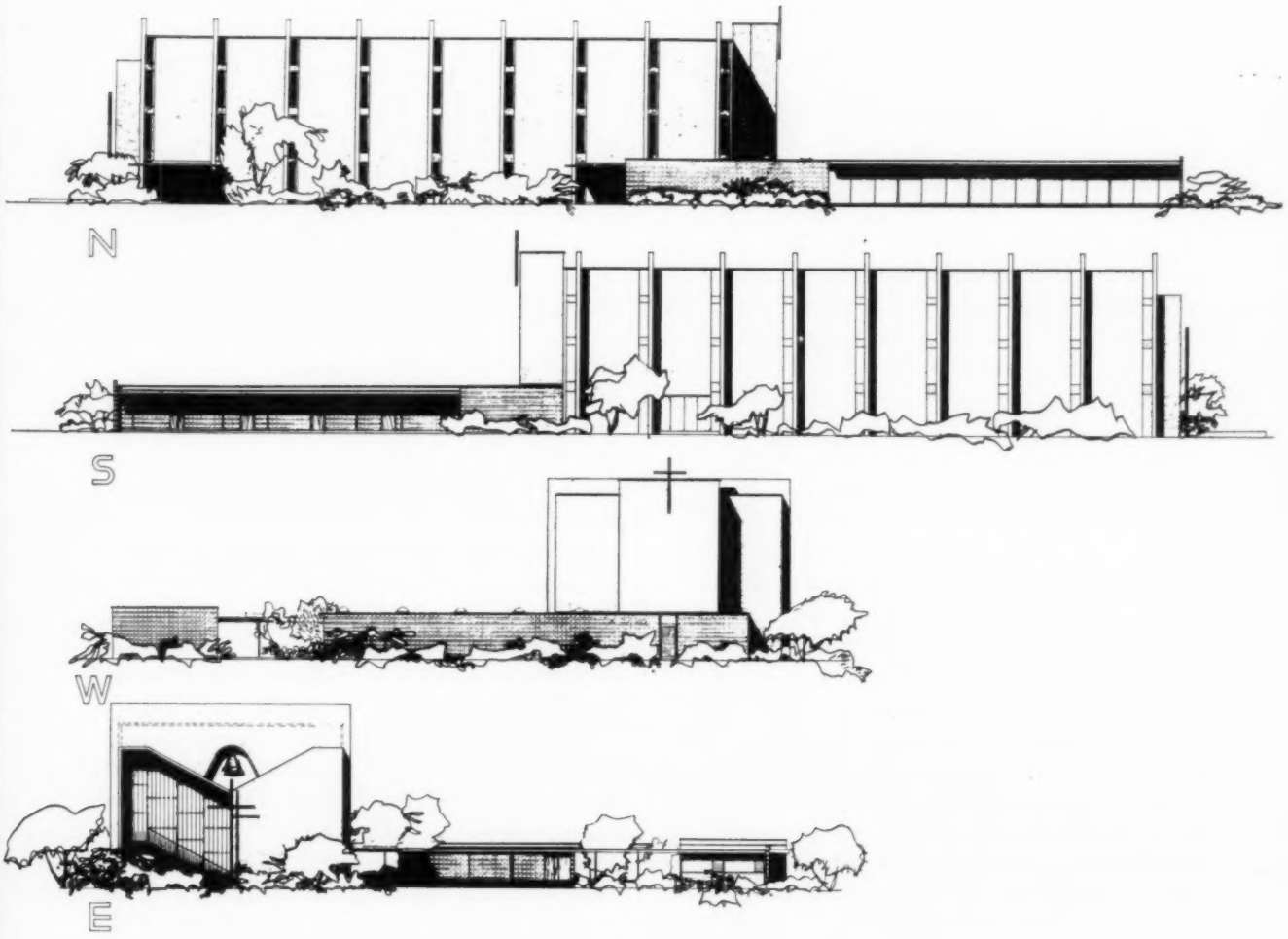
Julius Shulman

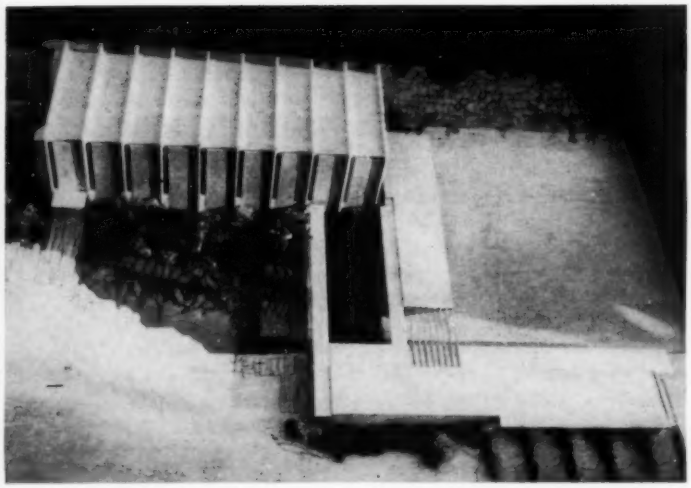
FROM THE ARCHITECT'S OFFICE:

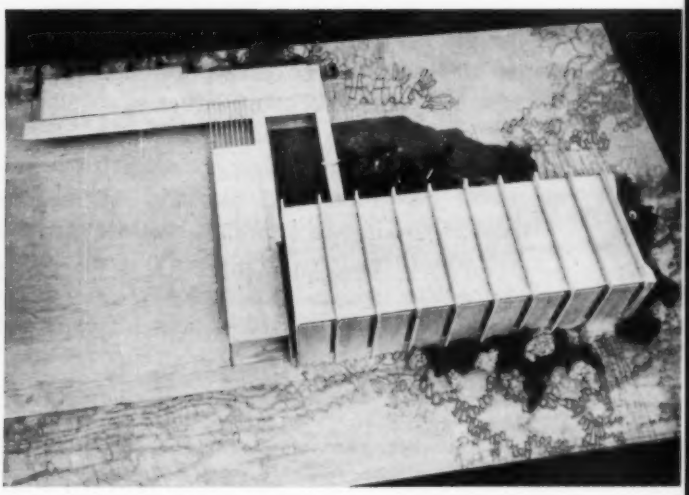
The architects feel that the western and in fact most religions have in common the need to express a processional, or dynamic "moving forward," toward the altar or focus of worship. Mr. Neutra, in his book "Survival through Design," has pointed out the physiological basis of ritual patterns as well as of all human behavior. The architect must be interested in this in order to serve man right, whenever and wherever it is.

Space is the great universal experience of man and it has for man its deep cargo of religious feeling. But this is not geometrical space rationally and abstractly analyzed by Euclid. It is space experienced through all our millions of sense-portals and with all our inner being. Apart from the indifferent Euclidean Space, the vibrant, sensory experience of it is *directional.* It has an up and down, a forward and something overcome and left behind.

Nature has set our eyes in the front of our head, it is no indifferent accident that our arms


N
S
W
E





are jointed to be raised forward and our legs carry us, where our vision leads. Our entire nervous makeup puts emphasis on direction and direction in space has acquired spiritual accent through one hundred thousand years, and later from Luxor to Chartres.

In addition to the natural forward move horizontally there should also be expressed an upward or heavenward tendency, which must be, by necessity, mostly visual. This feeling should impress itself on the visitor the moment he enters the church, and preferably he should be aware of it even before he enters.

The concept of this church creates this feeling in a way which will be kept in the memory of the onlooker. Starting with the outside, we see a symbolic bell, as has been used for convocation through many centuries. The bell is silhouetted against an interestingly translucent opening which is illuminated at night. This opening is seen over the valley formed by the inverted "V" — an expressive shape — of the ceiling as extended to the exterior of the building. From one side of the ridge is supported a unique hanging stair which, by its upward slant, symbolizes spiritual ascent. A glass screen is all that separates here the interior and exterior, so as to make this entry to a higher plane as inviting as possible.

The main nave entrance is approached through an open archway below the balcony into an interesting covered porch or vestibule. From here one can choose either to ascend the stair to the gallery, or enter the nave.

Immediately on entering, one feels the impression of the upsurge mostly through the shape of the massive concrete frames on both sides which tend to arch over but disappear behind the ceiling, high above, as if over clouds. The only natural light sources occur, concealed, forward of each frame. Being thus shielded, they will spill light toward the altar but not toward the observer looking forward. The shape of the floating ceiling, being higher at the edges than at the center, will seem to soar upward. But also the ridge of this ceiling, starting low over the balcony, rises and, especially when lighted, guides the eye upward and forward toward the altar.

The altar itself is illuminated by an inconspicuous, rather concealed, continuous skylight across the entire width of the nave, returning down the sides of the chancel or pulpit platform.

An unusual, dynamically graded division of the plastered rear wall of the altar heightens the perspective effect and gently emphasizes the spiritual importance of the altar wall, toward which all the directionalism of the design converges.

Vestment and sacristy rooms are grouped behind the chancel and altar, with convenient access for services to the main chapel and the more intimate morning chapel.

The main court or patio of the chapel is formed by the long wall of the chapel on the south, the cloister of the morning chapel on the west, and the main pedestrian approach walk on the east. Access to the chapel by car is from the west to an ample parking lot, where auditory disturbance is removed from the church goer, and then past pleasant Sunday-school class-rooms opening in a friendly way onto nature and onto their own outdoor landscaped patios. The main cloistered courtyard seems to follow an early California pattern.

Faint night illumination of the exterior of the chapel from below, and of its grounds, is planned so that at all times this spiritual focus of a community never disappears.



PRECAST CONCRETE

A survey of current U.S. practice, with emphasis on prestressing

Photo, Lone Star Cement Corp.

WHILE INTEREST in concrete has centered on its dramatic engineering possibilities lately, an aspect of concrete technique which merits close attention is that of factory-made precast units. The list of fabricators who are now producing precast structural members, particularly of the prestressed variety, is growing by leaps and bounds.

To get an idea of what kinds of precast buildings are being constructed, as well as a picture of the average fabricator's practice, ARCHITECTURAL RECORD surveyed some 30 companies. What follows is a background of recent developments along with some specific data regarding fabricators' operations.

The Development of Precasting

Precasting is an old art (strictly speaking, a concrete block is a precast unit). Roof and floor decking as well as precast joists have been available for a long time. But it wasn't until World War II that fabrication of large structural components made much headway. Tilt-up construction became quite popular with wall slabs and framing parts being cast at the site directly on top of the floor slab.

In the last two or three years, precasting has been given a big boost through the use of pretensioning for prestressed members. This is a logical adaptation of the prestressing principle to the construction practice and labor economy in the United States. It makes possible the casting of hundreds of feet of beams and other structural parts per day on a production-line basis.

What is Pretensioning?

In pretensioning, the strands or wires (sometimes called tendons) are stretched first between heavy anchorages which are part of a casting bed, usually made of concrete (see page 216). Forms are set up and concrete is poured around the wires. After the concrete hardens, the tension on the strands is released gradually, and the force is transferred to the structural member by means of bond between concrete and steel.

In post-tensioning, the structural part is poured around un-stretched tendons, and after the concrete hardens, the steel is stretched to the proper tensile force, after which the steel is fastened to anchorages at each end. The prestressing force, then, is applied initially through the end anchorages, even though the steel may be grouted in later to form a bond.

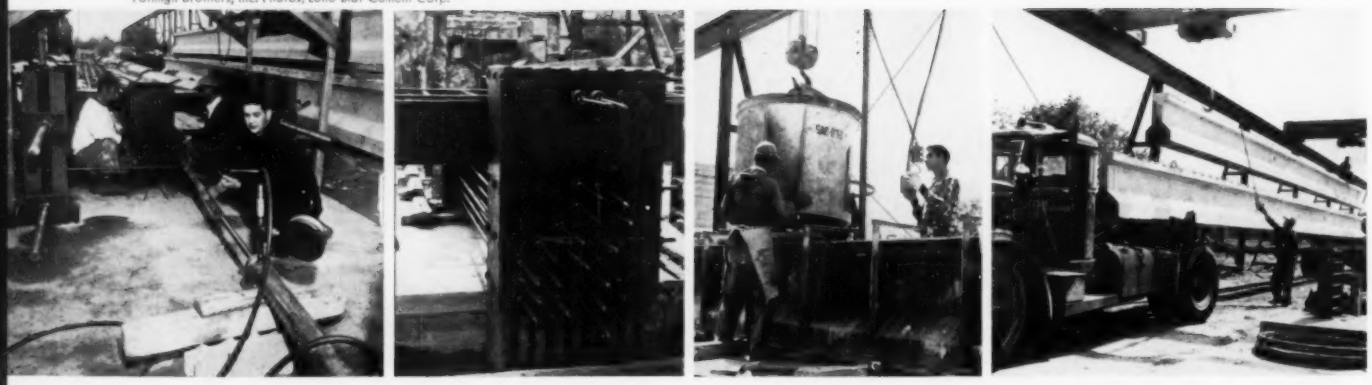
Why the introduction of pretensioning, and what does it mean to the building industry? When prestressing was introduced in the United States, it was greeted with a mixed reaction of enthusiasm for its structural possibilities, but with doubts as to overall economy because of such factors as these: the complexity of the prestressing operation itself (post-tensioning was used in all early structures), the cost of anchorages, and the unfamiliarity of contractors. Nevertheless, it was used where long spans and heavy loads justified it — and still is for that matter. Post-tensioning is used also when it would be difficult to transport pretensioned members because of size and when they are not available. Sometimes a combination of post-tensioning and pretensioning is employed. The members are pretensioned sufficiently for handling, and then post-tensioning is applied at the job site for the remainder of the prestress necessary.

Advantages of pretensioning are twofold: lower cost and closer control of quality afforded by central plant production. The prestressing steel and the stressing operation cost only about one-half — and sometimes less — for the same force applied by post-tensioning. In addition, the mechanization achieved with a casting bed reduces the cost per cubic yard of concrete to a minimum.

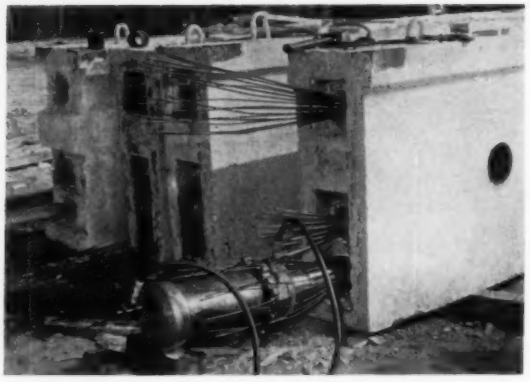
The maximum economical length for pretensioned girders is in the range of 60 to 70 ft. Even so, above 50 ft serious consideration should be given to a combination of the tensioning methods. Such members are economical up to the maximum lengths that can be transported.

The practice of pretensioning in Europe uses single wires for the tensioning

Formigli Brothers, Inc. Photos, Lone Star Cement Corp.



Pretensioning: *shown above are bridge girders being fabricated in a casting yard. Stranded wires are pulled one at a time to the required tension (left) and held in place by steel wedges; fixed end of the casting bed is shown in second picture. After the concrete is poured and hardens, tension in wires is gradually released by hydraulic jacks until the total force is transferred by bond to the girder*



Dextone Corporation

Post-tensioning: *before the girder was poured, flexible conduits containing a group of high tensile wires were hung in a form. After the concrete hardens, a double acting jack tensions the wires simultaneously, after which a ram within the jack drives a cone wedge into the girder for anchoring*

elements. High stress per wire is possible in small sizes, but it takes a large number to get the total pretensioning force.

A recent American development is the manufacture of 7-wire strand, $\frac{3}{8}$-in. in diameter. The salient feature of stranding is that it concentrates a high prestressing force in a small area, reducing the number of tensioning elements to be handled, perhaps saving up to 8 per cent of the cost of the steel. The trend is toward larger and larger strands — up to $\frac{7}{16}$ in. — for big girders. For small and thin sections, $\frac{1}{4}$-in. and $\frac{5}{16}$-in. strands are used.

This is the way the pretensioning process goes:

(1) Strands or wires are anchored to one end of a casting bed and to a tensioning device at the other end. Tension is applied by a hydraulic jack and then maintained by anchoring each strand, group of strands or wires to the bed. The tensioning device then can be used elsewhere.

(2) Forms are placed along the bed with additional mild steel as required, and concrete is poured from a mobile bucket.

(3) After sufficient curing to bond concrete to strands or wires, the tensioning device is applied again and the stress is gradually released so that the force acts directly, through bond, to the concrete member. A cutter or welder's torch is used to cut the strands between each member along the length of the casting bed. Casting beds in the U. S. run from around 100 to 450 ft. Some in Europe are over 1000 ft. Concrete, itself, is used for the casting bed to provide a base for the poured member and to provide spaces for anchor posts at various distances along the bed for tensioning the strands or wires.

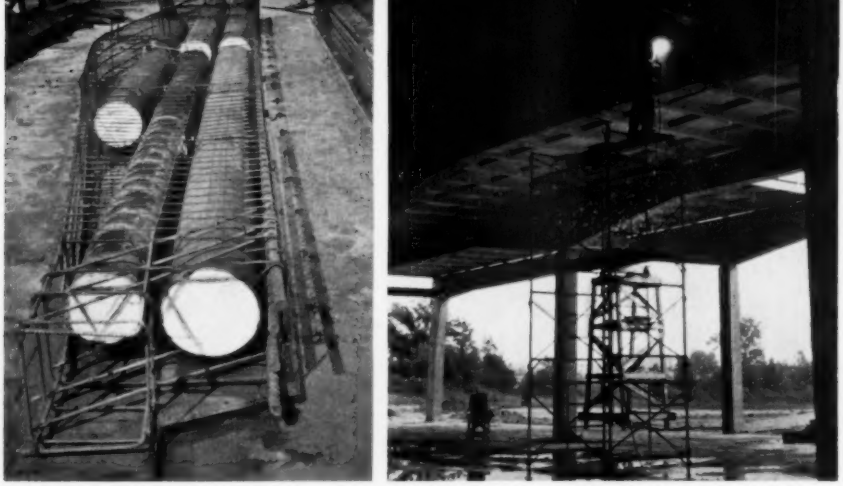
The tensioning elements are stretched singly when the fabricator desires to make a wide variety of units on the same casting bed. When repetitive operations are called for, such as with channel slabs and other standardized units, then the prestressing steel is tensioned all at once.

The concrete mix is designed to produce high strength and high bonding

Precast roof panels have a pleasing appearance so they were left exposed in this school recreation building. They are supported by precast concrete hinged arches



William Arild Johnson, Architect, Associated Sand & Gravel Co.



Corbetta Construction Co.

Three similar warehouses, 200 by 600 ft, at Great Lakes Naval Training Center were all-precast concrete consisting of rigid frame members, wall and roof panels and loading dock canopies. Hollow tubes were inserted in the reinforcing cage for the top section of the rigid frame to reduce the dead weight. Roof panels were attached by welding of insert plates

Thomas, Ross and Stanfill, Architects; Ross Bryan, Engineer; Nashville Breeko Block Co.



Concrete framing for a school is made up of special prestressed concrete blocks. The 24-ft joists of 8- by 16-in. blocks are supported on ledges of prestressed beams, reducing the total depth from the top of the precast slab to the bottom of the corridor beams to 22 in. Joists were tied together with steel plates attached to anchor bolts. Beams were made continous over columns by placing reinforcing in grooves provided in the top of the beams

value in the shortest possible time. To get high-early bond the following practices are employed: (1) very dry mix with air entraining cement; (2) internal and form vibrators, (3) steam or hot water curing; (4) low water-cement ratios. Concrete strengths run from 4000 to 5000 psi, and even higher in some plants (up to 10,000 psi).

The Future for Prestressing

Advocates of prestressing feel that the major problem facing this system today is utilizing it so as to (1) make it fit the standard methods of building familiar to the average contractor, and (2) still provide a building acceptable to architect, engineer and owner.

When precast, prestressed members are fabricated at a plant and hauled to the site and erected, the contractor uses them in much the same manner as he would steel. All he has to do is erect the members, which have been prenumbered as to location, by crane and join them either by welding of steel plates embedded in them, or by pouring concrete joints around projecting reinforcing steel. Only a little concrete needs to be poured in the field; exposed surfaces will have a more satisfactory finish for painting directly.

Advantages of "Factory" Operation

The concrete fabricator can produce structural members in a plant regardless of inclement weather. If the members are ordered far enough in advance, they can be stored in erection sequence, eliminating on-site storage, and they can be ready for use as soon as foundation and floor slab are completed. Steam or hot water curing reduces the setting time to speed up the "production line," and this mass production coupled with trained plant labor greatly reduces cost. High quality, no-slump (very dry) concrete can be made with factory conditions, providing high compressive strengths in the neighborhood of 5000 psi, and sometimes more.

Construction Time

Some fabricators report that often it is possible to complete a structure in less than half the time required for conventional methods in concrete. Since production is unhampered by weather (if the work is done inside), delivery and erection go ahead without delay.

Within metropolitan Houston, one fabricator puts up a complete structure, including walls, at an average speed of 7500 sq ft of area per day. Framing with roof decking averages 10,000 sq ft per day. The work is handled by a motor crane with a two-man crew, five to six ironworkers, and a superintendent.

Types of Components Fabricated

The types of units produced include the following: *Prestressed* — girders; beams of I, T, WF or rectangular shapes; roof and floor decks of double-T section; channel slabs; joists of I and T section; stadium seating; columns; rigid frames; lintels; light poles; pilings. *Ordinary Precast* — wall panels and spandrels; beams; joists; columns; channel slabs; arches; rigid frames.

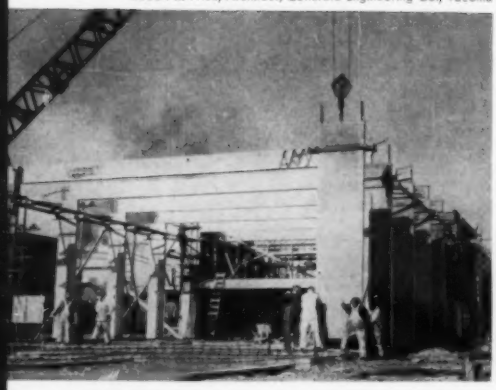
Nearly 85 per cent of those answering ARCHITECTURAL RECORD's survey produce prestressed beams and girders; 65 per cent, channel and other roof and floor slabs; 45 per cent, double-T slabs; 30 per cent, joists; and less than 25 per cent, columns.

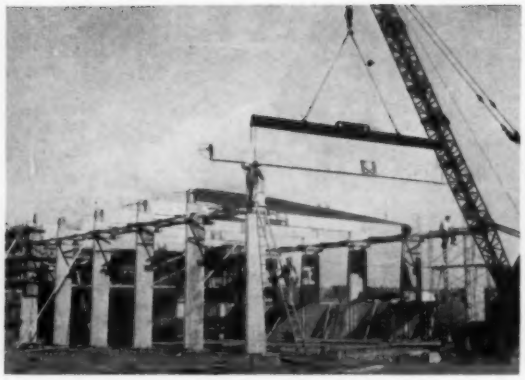
In ordinary precast concrete, 70 per cent make beams and columns, floor and roof slabs; 50 per cent, joists; and a little over 25 per cent, arches and rigid frames.

Methods of Connection

Connections are made usually by welding of steel plate inserts embedded in the units; poured concrete joints around

Robert B. Price, Architect; Concrete Engineering Co., Tacoma

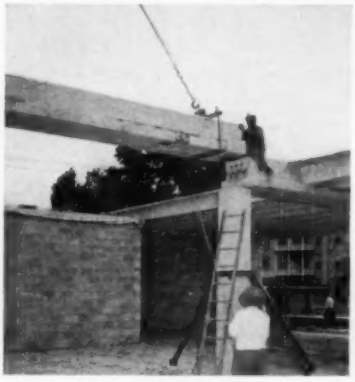






A National Bank of Washington branch building is precast concrete including flat columns, which serve also as fins; prestressed beams and precast roof slabs. Dowels from columns and prestressing steel from beams are welded to form a connection and the corner is poured concrete

Henley Walker, Jr., Architect; William J. Blanton, Structural Engineer; Concrete Structures, Inc.





The United States Fidelity and Guaranty Co. building in Richmond, Va. also is completely precast. Reinforced columns, 32 ft o-c, have steel plates welded to girder plates, forming a rigid frame. Hollow girders were post-tensioned with 3 cables before erection and 3 cables afterwards. The hollow was grouted following tensioning. The 33-ft, 4-in. double-T floor slabs were pretensioned with 16, 3/8-in. dia. strands

extended reinforcing; grouted joints and keyways; welding of exposed reinforcing bars covered with protective grout; and bolting.

Special Plant Equipment

In the factory-like production of precast concrete, there are many different types of equipment not needed for ordinary poured-in-place concrete. This includes special mixers to get no-slump concrete; casting beds and tensioning equipment; various types of vibrators; steel forms; special forms to remove excess water by vacuum; steam and hot water curing; overhead cranes, bridge cranes, long pole trailers for shipping and lift trucks for erecting precast units.

Advantages of Precast Concrete

Some of the factors that have favored the selection of precast concrete are: (1) economy, (2) low maintenance, (3) fire resistance, (4) finished surfaces, (5) quality-controlled manufacturing, (6) long spans and heavy loads with prestressed units.

Here are some of the reasons given by fabricators for increased use of precast and precast, prestressed concrete."

Cost:

"Low cost for spans and loads not feasible with ordinary concrete."

"When designers learn to adopt standard structural elements that are mass produced in a factory, greater economies will result."

"We can compete on initial cost against steel beams and girders when the loading requires a steel beam that weighs 60 lb or more per ft."

"Actual jobs indicate savings of 30 cents per sq ft over conventional reinforcing and forming on the job."

Fire Resistance:

"Better fire protection is afforded at lower initial costs."

"Big factor is the great difference in fire insurance ratings with large savings in yearly rates for precast-prestressed buildings."

"Our local building code is being enforced with respect to area limitations for anything other than fireproof or semi-fireproof construction. Large warehouses with no obstructing fire walls have to be in concrete."

Speed of Construction:

"Reduction of site time for general contractor and all trades."

"Saving in time."

"Deliveries and speed of erection."

Appearance:

"Ninety per cent of our jobs are exposed ceilings which puts us on a competitive basis with conventional type roof and floor systems."

"Most important factor outside of low initial cost for fireproof construction is the intelligent use of roof and floor slabs providing both exterior support and exposed interior surfaces."

"Color-texture-plasticity."

Characteristics of Precasting Practice

Size of Units Produced. The longest girder reported was 120 ft; others ranged 40, 50, 60, 75 and up to 94 ft. The longest slabs were channel units 64 ft long; others were 20, 30, 40 and 50 ft.

Geographical Area Served. The average distance that precast units were shipped was 150 to 200 miles. The farthest was 800 miles.

Size of Market. Twenty-five firms reported a yearly dollar volume averaging about $300,000, going up to several at $1 million, and even one at $3 million.





McMinn and Northeet, Architects

110-ft long, 7-ft high post-tensioned girders being hoisted by crane to give a clear span for a supermarket in Midvale, Utah

Erection of precast thin shell elements for a school playshed in Tacoma. The shells are 1½ in. thick at the crown







Robert B. Price, Architect, Concrete Engineering Co., Tacoma

Building Types and Sizes. Most of the buildings using precast units were one or two stories high, with several three or four. Some buildings using precast joists or channel slabs went up as high as seven and eight stories. The building types most frequently employing precast concrete are industrial buildings, warehouses, schools, office buildings and stores (including shopping centers).

120-ft, record-size prestressed girders cover a play area 118 by 118 ft for the Senior High School Gymnasium in Greensboro, N. C. The completed roof consists of 12-in. precast joists spanning 20 ft at 8 ft o-c. and 2 ft wide roof channels



McMinn & Northeet, Architects Arnold Stone Co.

Participants in Survey:

Arnold Stone Co., Greensboro, N. C.; Associated Sand & Gravel Co., Everett, Washington; Basalt Rock Co., Inc., Napa, Calif.; P. F. Blair & Son, Tulsa, Okla.; Otto Buehner & Co., Salt Lake City, Utah; Concrete Engineering Co., Knoxville, Tenn.; Concrete Engineering Co., Tacoma, Washington; Concrete Masonry Corp., Elyria, Ohio; Concrete Materials, Inc., Charlotte, N. C.; Concrete Prestressed Corp., Bristol, Tenn.; Concrete Products, Inc., Skokie, Ill.; Concrete Structures, Inc., Richmond, Va.; Dextone Corp., New Haven, Conn.; Florida Prestressed Concrete Co., Inc.; Formigli Brothers, Inc., Philadelphia, Pa.; Hamilton Concrete Products, Inc., Chattanooga, Tenn.; F. Hurlbut Co., Green Bay, Wis.; Knox-Blox, Knoxville, Tenn.; Lewis Mfg. Co., Inc., Miami, Fla.; Maule Industries, Inc., Miami, Fla.; Nashville Breeko Block Co., Nashville, Tenn.; Porete Mfg. Co., North Arlington, N. J.; Prestressed Concrete, Inc., St. Paul 13, Minn.; The Rackle Co. of Texas, Houston, Texas; Southwest Structural Concrete Corp., San Diego, Calif.; Truscon Laboratories, Detroit, Mich.; United Cement Products Co., Witchita, Kansas; F. H. Wright & Son, Fort Lauderdale, Fla.

Other Sources of Information:

Ross Bryan, Nashville, Tenn.; Freyssinet Co., Inc., New York City; Leap Concrete, Inc., Lakeland, Fla.; John A. Roebling's Sons Corporation, Trenton, N. J.

MOVING SIDEWALKS

By G. B. Gusrae
Transportation Consultant

The first one was operated as early as 1893. But it wasn't until 1954 that the first commercially successful moving sidewalk was installed. Here is the history of their development along with an analysis of the factors that will affect their future use

A NEW FORM of transportation is beginning to take shape. A form which, judging by the past record of man's ingenuity in avoiding labor, will undoubtedly become indispensable in short order. The new device is the moving sidewalk or the passenger motorway. Already there are a number of experimental and actual installations, and potential applications abound in passenger stations, shopping centers and similar areas. Whether or not they will fit into a particular situation depends on a number of factors such as engineering, economics, and the safety of people riding and stepping onto and off moving platforms.

Early History

It all started almost one hundred years ago when Nathan Ames of Saugus, Massachusetts obtained a patent on August 9, 1859 for a contraption he called the "Revolving Stairs." A number of steps were linked together to form an endless inclined flight of stairs. The endless stair belt presumably was driven by two or three rollers and was intended to elevate passengers from one level to another.

The next step was taken by Jesse W. Reno of New York when he patented, on March 15, 1892, his "Endless Conveyor." This device, described as a sliding mechanical incline, was provided with a handrail so as to "add to the feeling of security and comfort of the passengers." The inclined steps were equipped with grooves arranged to interlink with prongs of comb-like landing plates so as to guard against passengers stumbling when they would alight from the moving steps.

Reno's conveyor was followed by two other devices: George A. Wheeler's "Elevator" on August 2, 1892, wherein the surface of the moving steps was made horizontal, and the more elaborate "Elevator" of Charles D. Seeberger, who obtained on January 17, 1899 a patent with not less than 66 bulky claims.

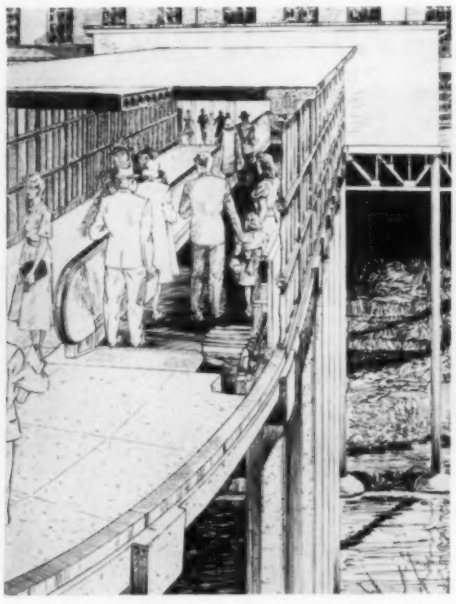
Reno, financed by Lyman G. Bloomingdale, the proprietor of Bloomingdale's Department Store, succeeded in constructing the first practical moving stair which he installed in the 59th Street Station of the Third Avenue "El" in New York City. It was completed on September 5, 1900 and was torn down in October of 1955 during the demolition of the elevated.

The first unit had a rise of 24 ft, was 18 in. wide and measured 65 ft in length, being inclined at about 25 degrees.

Meanwhile Seeberger arranged with the Otis Elevator Company for a unit based on his design. He exhibited his moving stair at the Paris Exhibition in 1900.

Shortly after the first Reno stairway was set up, there was some thought of adopting the device to long distance horizontal travel. The New York Tribune of that time reported that a moving sidewalk to carry pedestrians across Brooklyn Bridge was under serious consideration. A sidewalk of this kind was in operation at the Paris Exposition in 1900, where people were carried from the Champ de Mars to the Esplanade des Invalides at the rate of five miles an

The B. F. Goodrich Co., Link Belt Co.



Stephens-Adamson Mfg. Co.



Left: Put into operation in February last year, this 114-ft moving sidewalk takes passengers up a 12 per cent grade into the Sam Houston Coliseum in Dallas. Above: In May 1954, the first commercial unit, 227-ft long with a 10 per cent grade for 137 ft, was dedicated at the Hudson and Manhattan RR terminal

hour. The first operating moving sidewalk, however, was used at the 1893 Columbian Exposition in Chicago.

The Brooklyn Bridge sidewalk, being American in concept, was to travel 10 miles an hour, accommodate 65,000 persons an hour, and have benches every 4 or 5 ft, and to be equipped with awnings. That talk soon died down, but the idea of moving sidewalks has been about ever since.

About 1910, the Otis Elevator Company acquired the moving stair patents of Reno, Wheeler and Seeberger. By combining the best features of each, they succeeded in producing a well designed moving stairway readily acceptable to the public and sufficiently flexible for multi-purpose application.

About 1920, an idea took root to construct a moving sidewalk for the length of 42nd Street in New York City between Grand Central Station and Times Square. An experimental unit, consisting of three parallel sections operating at three different speeds of 3, 6 and 9 miles per hour was constructed in an open lot in Jersey City. The testing demonstration apparently was a fiasco because the company formed to promote it, the Continuous Transit Corporation, soon dropped out of existence.

For a while the management of the 1933 Chicago World's Fair considered the possibility of embroidering the Fair by installing a few moving sidewalks. Eventually, the idea was dropped.

The Rockefeller Center architects spent considerable time in investigating the ambitious project of building a tunnel and installing moving sidewalks to connect the Center with Grand Central Station. Eventually, this idea too, was dropped as impractical.

An attempt was made to design a moving sidewalk for use between the House of Representatives building and the Capitol building in Washington, D. C. A selected group of engineers investigated this possibility for over a year. Finally the idea was given up in favor of electric bus service similar to the one between the Senate building and the Capitol.

The moving sidewalk idea kept on cropping up. About 1937, when the Board of Transportation of the City of New York was preparing plans for the 6th Avenue Subway, they found it necessary to close down the 33rd Street Station of the Hudson & Manhattan Tubes and use a temporary station about five city blocks further down. The possible use of a moving sidewalk about 1200 feet long to connect the regular station with the temporary station was seriously investigated and finally abandoned on the grounds of it being "impractical due to the insufficient development of the moving sidewalk art."

Finally, at the New York World's Fair, the Westinghouse Electric Corporation installed in the General Motors Building a horizontal moving stairway and a moving sidewalk about 100 ft long. This preceded belt-driven moving chairs arranged to take the viewers through the General Motors Exhibit. The entire combination — the moving stairway, the platform and the chairs — was designed to travel at the normal moving stairway speed of 90 ft per minute. A number of attendants were provided to assist the people in negotiating their course from moving stairway, to platform, to the chairs and vice-versa. The installation was successful.

Recent Installations

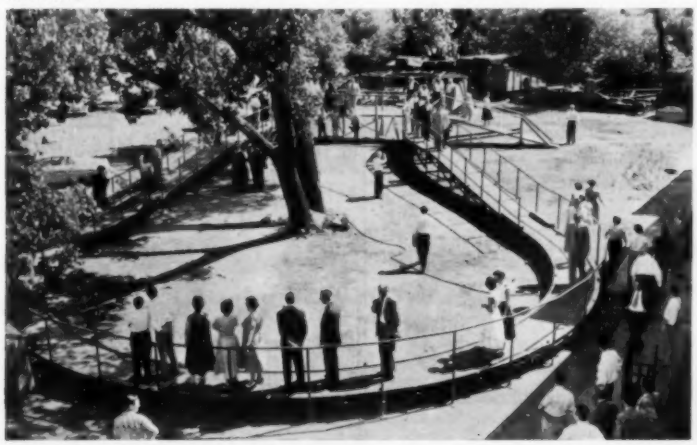
The Stephens-Adamson Manufacturing Company, for some years manufacturers of materials conveying equipment, and the Goodyear Tire and Rubber Company prepared engineering drawings early in 1950 for a moving sidewalk.

In 1952 an exhibit at the Chicago Museum of Science and Industry was equipped with a 65-ft long moving sidewalk designed by Stephens-Adamson. The belt, furnished by B. F. Goodrich, is of four ply rubber construction, ⅜-in. thick and 36-in. wide; is equipped with moving handrails; and travels at the rate of 132 ft per minute. The belt rides on a polished maple slider bed and is capable of carrying 5000 persons per hour. At present it transports an average of two million people a year.

In April 1953 Stephens-Adamson and Goodyear erected a full-scale test unit in the Stephens-Adamson plant at Aurora, Illinois. It was made to represent the loading and unloading platform belts for the most ambitious project to date, the proposed passenger conveyor subway system to replace the existing Times Square subway shuttle in New York City.

The unit was variously known as the subway moving platform, the conveyor-

Hewitt-Robins Inc.



Otis Elevator Co.



Above: This is a test unit for the only moving sidewalk that can go 'round a curve. A rubber sheet fastened to small flat cars can stretch slightly. Right: Another test model consists of a series of cleated aluminum plates. It rises 6 ft with a slope of 14 degrees on one side and six degrees on the other

belt subway, the passenger conveyor subway and the Carveyor. The belt is 108-in. wide, has a 60-ft length of travel at the rate of 132 ft per minute and is capable of carrying more than 16,000 passengers an hour.

This experimental moving sidewalk has shown that a ¾-in. thick rubber and fabric combination belt, running on 3-in. diameter rollers set 3½-in. apart, will give the passengers riding on it a feeling of solidity. It has also been established that the 132 ft-per-minute belt speed will permit any passenger, even on crutches, to enter the belt from a stationary platform and to leave it safely.

The proposed conveyor shuttle was to employ one loading and one unloading platform belt at each end. Adjacent to the platform belts would run a 60-in. wide car belt with a number of 14-passenger capacity cars riding bumper to bumper. At the loading and unloading terminals both belts would travel at the same speed. The passengers would walk onto the moving loading platform and step into one of the cars moving at the same speed as the platform.

At the end of the loading zone, the automatically controlled doors of each car would close; the car would run onto a 33-ft long live roll conveyor where the rolls would turn successively at higher speeds; the car would accelerate to a speed of 15 mph and would be transferred from the rolls to the fast speed belt conveyor for a run of 1800 ft with a spacing of 70 ft between the successive cars.

At the end of the run, the car would move over a 33-ft long decelerating roll conveyor until its speed is reduced to that of the unloading platform belt.

Another working model was installed in April 1954 at the Akron plant of the Goodyear Tire & Rubber Company where it is used to carry large groups of employees up a ramp leading to the factory entrance.

Then in May of 1954, an actual moving sidewalk, known as the Speedwalk, was installed by Stephens-Adamson and Goodyear in Jersey City, New Jersey. It carries commuters at the Hudson & Manhattan Tube Station a distance of 227 ft. For 137 ft of its total travel, the sidewalk moves up a 10 per cent grade eliminating a tedious up-hill climb which the commuters, in grim humor, have dubbed the "Cardiac Ramp."

The rubber belt is ⅝-in. thick, 66-in. wide, is equipped with moving handrails, and travels up or down depending on the hour of the day at a speed of 120 ft per minute. The belt rides relatively smoothly over 600 rollers, being driven by a 20 horse-power electric motor through a speed reducer. Emergency stop buttons are provided at strategic points. The motorway is capable of carrying nearly 11,000 persons per hour. In over a year of operation, with 1,250,000 passengers handled, the system has established a perfect safety record.

In February 1955, a moving sidewalk designed by B. F. Goodrich and the Link Belt Company was put into operation at the Sam Houston Coliseum in Houston, Texas. The belt was designed to carry 15,000 people per hour at a height of 50 ft over the Buffalo Bayou to the Coliseum entrance.

The belt is of 7 ply rubber construction, ⅞-in. thick and 82 in. wide; is equipped with moving handrails; and travels 132 ft per minute through a distance of 114 ft at a 12 per cent grade. The belt rides on closely spaced rollers driven by a 25 horse-power electric motor through a speed reducer. The passengers complete the distance in 52 seconds.

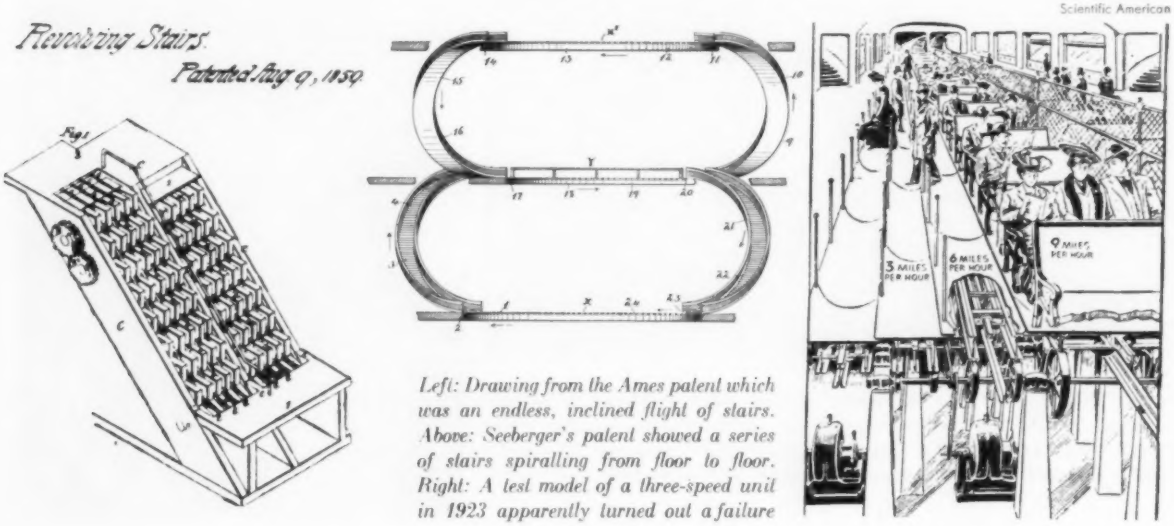
The Hewitt-Robins Company of Stamford, Connecticut recently designed a passenger motorway which is the only one that travels along a curving path. An experimental unit was installed in the Hewitt-Robins plant in Passaic, New Jersey. It consists of a rubber sheet without fabric reinforcement which is fastened to a series of small flat cars mounted on wheels and designed to travel along a track. The rubber sheet stretches slightly as cars go around curves. The moving platform is guarded on both sides by stationary railings.

Three of the Hewitt-Robins passenger motorways will be installed in the new air terminal at Dallas, Texas. They will carry passengers and baggage for a total length of 1406 ft.

The Otis Elevator Company has entered the field of passenger motorways with a unit known as Trav-O-Lator which travels at the rate of 135 ft per minute. A working model, with a total travel of 95 ft, has been installed at the Otis Harrison Works. The unit rises 6 ft with a slope of 14 degrees on one side and 6 degrees at the other. In construction, it is a modification of their moving stairway. The moving sidewalk consists of a series of cleated aluminum platforms designed for combing at landings. The platform sections are guided by chains on a wheel and track system similar to that employed on moving stairways. Balustrades and handrails are

(Continued on page 233)

Scientific American



Left: Drawing from the Ames patent which was an endless, inclined flight of stairs. Above: Seeberger's patent showed a series of stairs spiralling from floor to floor. Right: A test model of a three-speed unit in 1923 apparently turned out a failure

HEAT PUMP EXTRACTS BTU'S FROM BELOW ZERO AIR

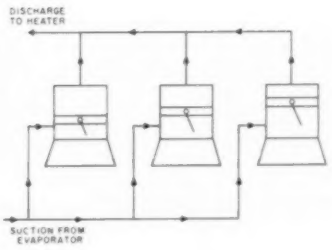
A HEAT PUMP SYSTEM which doesn't have to work very hard to produce summer cooling and winter heating even in the coldest weather actually uses below-freezing outside air as a heat source and heats the refrigerant from temperatures as low as −20 F to 110 F in two stages. Installed in the new Philadelphia home office building of The Ballinger Company, architects and engineers, the improved system is heralded by its creator, the York Corp., as a practical year-round air conditioning source which will balance not only the heating-cooling budget of the user but also the load ups and downs of electric utilities.

Basically the system is the same as most other air-source heat pump systems — except that it switches automatically from single-stage to multi-stage compression when the outside air reaches a certain low temperature. Compound, or multi-stage, compression is a familiar refrigeration technique, used for years to achieve economically the extremely low temperatures needed in ice-cream plants and the frozen food industry. It's simply a "helping" device to reduce the total work load necessary in heating the refrigerant gas from low to high actual temperatures by increasing the efficiency of each of the two stages of refrigeration. Heretofore the efficiency factor has been the "bug" which has made the use of heat pumps in northern climates impractical and expensive, because the standard single-stage systems either had to be supplemented by electric strip heaters in cold weather or else had to work very hard at low efficiency (expensive!) to produce enough heat to keep a building warm.

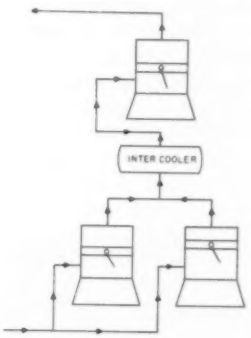
An example is shown in the simplified schematic flow diagram at right of a single-stage system. At temperatures above freezing this system is adequate, because compression ratios are relatively low and so efficiency is relatively high. Compression from a 40 F to a 110 F pressure equivalent gives a compression ratio of only 2.92 to 1. However, as the temperature decreases, the increment through which its pressure equivalent must be raised increases, and so does the compression ratio. For example, when the refrigerant is raised to 110 F from −20 F (at which point it can extract the same Btu's from half the volume of air that would be required at −10 F — and so less fan horsepower is needed to move the air!), the compression ratio is almost 10 to 1, and that means a lot of work has to be done by the compressors.

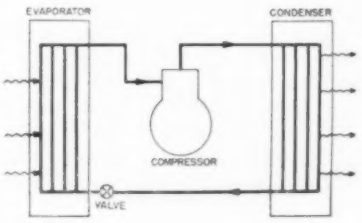
In the multi-stage system, shown also in simplified diagrammatical form at right, this compression is accomplished in two stages, so that less total work has to be done. An analogy can be made with a ball which is to be thrown from ground level to a window four stories above. If the ball-thrower tries to accomplish the four-story throw himself, he must put a lot of power behind his toss. However, if he throws the ball to a friend on the second floor, who in turn throws it the rest of the way, neither of them has to do as much work — and, as a matter of fact, the total amount of energy expended by both of them is less than would have been necessary from just one of them attempting the feat without help. In the multi-stage system, the refrigerant, which picks up heat from the warmer outside air (even — 10 F is warmer!), is compressed to an intermediate pressure. It is then "desuperheated" in an intercooling chamber and drawn into the second-stage compressor. There it is compressed to a usable level (110 F, for example) and finally passed along to the heating coils. In neither one of these compression stages is the compression ratio very high, and so the heat output per unit of work is much higher than it would be if the refrigeration had to be raised from a low to a high pressure equivalent in one stage. As a point of comparison, the coefficient of performance of a multi-stage system with sub-cooling is almost twice that of a single-stage system without sub-cooling. Sub-cooling is accomplished by inserting coils circulating liquid refrigerant in the fresh air inlet to lower the temperature of the condensed refrigerant while simultaneously heating the inlet fresh air. This sub-cooled high-pressure liquid is expanded into the outdoor-air coils, where the outdoor air boils it into a vapor, thereby starting the cycle over again.

The Ballinger installation is the second one in which the York compound compression heat pump has been used. The first was the Heironimus department store in Roanoke, Va., designed by Hayes, Seay, Mattern and Mattern, architects and engineers. Research is now being done to produce a packaged system for home use.

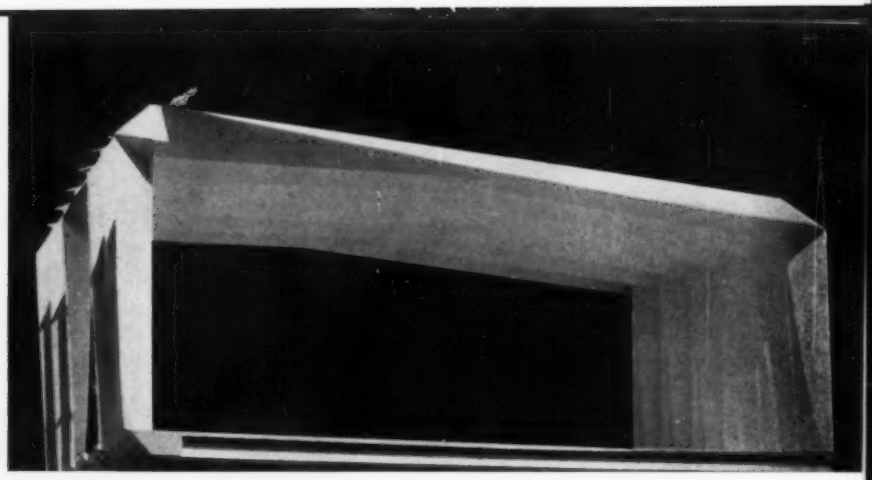


Diagrams show basic difference between single-stage (above) and multi-stage (below) compression. Actually, position of compressors doesn't change when system switches, only line of flow is changed through thermostatically controlled valves





In basic heat pump cooling cycle, liquid refrigerant flows through expansion valve, becoming a low-temperature, low-pressure vapor. Warm room air flows over refrigerant coils (evaporator), becoming cooled as refrigerator absorbs heat. Heated vapor is compressed to a high-temperature, high-pressure vapor and goes on to condenser, where outside air takes heat from coils and condenses refrigerant to a liquid again. Flow is reversed in the heating cycle, with outside air supplying heat to the refrigerant, which gives up its heat to the room air

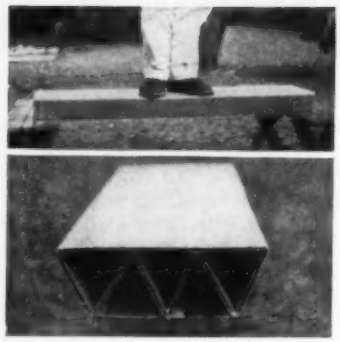


STRUCTURAL CARDBOARD FOR BUILDING

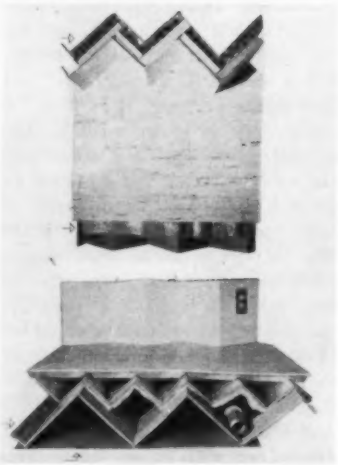
CORRUGATED CARDBOARD as a structural material to provide the basic element in low-cost housing has been proposed by two young architects, Raymond A. Mettauer of Waldwick, N. J., and John N. Cohen Jr. of New York City. Concerned about the problem of providing acceptable houses for low-income groups, they have conducted some basic research on the economics and structural feasibility of using cardboard in sheet form corrugated to make floor, wall and roof elements in a continuous structural system like that shown in the model above. The cardboard shell on which they are placing so much hope "is fundamentally a system of layers of laminated cardboard integrating strength, insulation and finishes. These laminations are waterproofed, thermally isolated and insulated, and vapor-barriered to meet the requirements of any well-engineered wall, roof, floor." The shell itself might be protected at the surface by a jointless but waterproof skin of glass-fiber-reinforced resin. The cardboard would be chemically treated so that it could not support combustion nor could the flameproof finishes that would be used inside and out.

Messrs. Mettauer and Cohen hope to proceed in two major phases of development. First, they plan to complete an emergency shelter which can be packaged, flown to disaster areas by helicopter, and dropped for fast and easy assembly into temporary housing units. Second, from the laboratory data which can be drawn from these units and from income derived from the licensing of them (patent applied for), they hope to progress to final assembly of a full-size house.

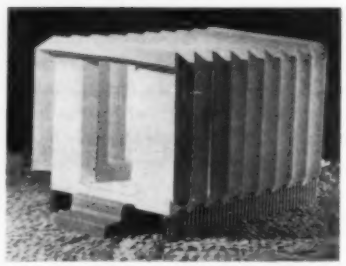
(*More Roundup on page 236*)



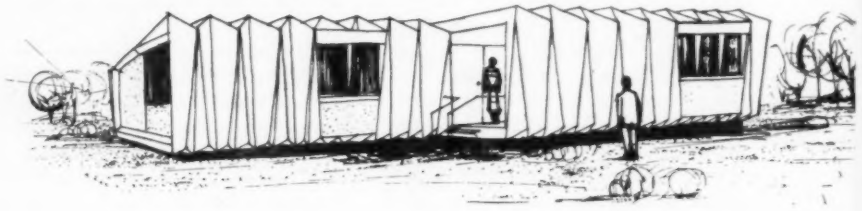
Basic element of floor system includes a top chord for compression, a bottom chord for tension and a web spacer to transfer sheor stresses. Aluminum is used for the tension chord because of its high tensile strength and also because it provides reflective insulation. For walls and roofs, which don't have to bear the same loads as the floor, compression and tension members can be replaced with two 0.1-in. aluminum rods glued at the nodes of the corrugations.



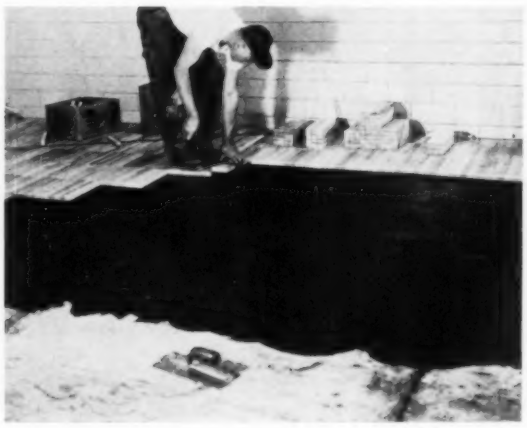
In full-scale model of a floor and wall section, floor tubes, which can also act as heat ducts, are laminated with aluminum-coated waterproof membrane. This not only prevents moisture content variation in cardboard and serves as reflective insulation, but also permits emergency draining. Bottom sheet of structural aluminum and Fiberglas insulation prevents transfer of moisture and ground cold from crawl space below, where heating plant is located. Other services can also be run through walls and floor. Finish flooring can be of any type, applied with adhesive.



Simple emergency shelter could be packaged with these elements: corrugated metal base panels, to which would be clipped corrugated "U" for floors and walls; flat floor sheet and end panels which would be slipped into place; corrugated "U" for roof, which would be clipped to lower "U." From research on such a shelter, the designers hope to progress to a full-size house, which could be developed in a number of variations — perhaps like the sketch below.







UNDERFLOOR CUSHION PREVENTS BUCKLING OF FINISH FLOOR

AN INSULATING, UNDERFLOOR CUSHION is being produced for installation under wood flooring on grade or sub-grade slabs to eliminate moisture migration into the finish floor. First, the manufacturer recommends, a water- and vapor-proof membrane should be placed on grade to isolate the slab that will be poured over it from moisture and vapor originating in the soil. Next *Corklite*, impermeable, resilient insulation panels having a constant thermal resistance of about .48 Btu, should be laid in place, with joints staggered, after a coating of asphalt has been spread on the concrete slab. After a generous coating of cut-back asphalt adhesive is spread over the *Corklite*, completely sealing all joints, the finish flooring is installed as shown in the second photo above. It is claimed that the *Corklite* underfloor cushion prevents a dewpoint within the floor and eliminates the possible buckling and rotting of the finish floor by condensation or ground moisture; also that it produces a floor with low sound transmission. *W. R. Meadows, Inc., Elgin, Ill.*

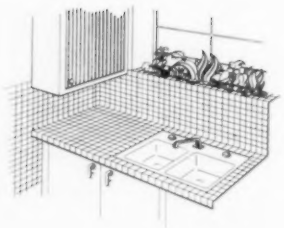




CONCRETE BLOCKS SHAPED TO FIT OTHER STRUCTURAL ELEMENTS

CONCRETE BLOCKS are being fashioned in unusual shapes for use as both structural and decorative elements. They are called "Levitt Shapes," after architect Alfred Levitt, because they were designed for use in his 8-story apartments of block, glass and steel in Queens, New York. Two of the blocks are shown in the illustrations above: The "solid slotted block" at the left, solid except for a 1-in. slot, encloses overhead I-beams and joins the block wall; it can also enclose vertical I-beams. The "spandrel cover block" at the right is fitted directly onto spandrel beam. Other shapes are a 100 per cent solid coping and an 8-in. radius bull nose. After being fitted to steel members, the exposed block surfaces can be painted to become finished interior or exterior walls. They will hold nails or other fixtures. The blocks fulfill insulation requirements and can be used wherever steel framework must be fireproofed. *The Cincrete Corp., 29-02 First St., Long Island City, N. Y.*

(More Products on page 250)



SPARTAN CERAMIC TILE (AIA 23-A-1)

A colorful file folder presents booklets which are index-tabbed in three separate sections: "Spartan Tiles" includes full-color brochures showing color, shapes, patterns and sizes of glazed ceramic tiles. "Details & Patterns" presents typical sketches of tile installations (as shown at left) and a variety of patterns. "Sparamics" discusses ceramic tile mounted on perforated paper backing for direct-adhesive setting. *The Sparta Ceramic Co., East Sparta, Ohio.**

Automatic Private Communication
Data file includes information on a variety of *Privatel* automatic telephone systems designed for private use. *North Electric Co., Galion, Ohio.*

Industrial Floors
Bulletin 3-3 explains two standard Atlas corrosion-resistant floors and gives complete estimating data. 4 pp. *Atlas Mineral Products Co., Mertztown, Pa.*

Furniture, Glassware, Lamps
Catalogs furnishings designed by Italy's foremost architects. 16 pp. *Allamira, 18 East 50th St., New York 22, N. Y.*

Open Truss Steel Joists (AIA 13-G)
Presents "O-T" steel joists (shortspan series), and includes pages of loading tables. 32 pp. *Truscon Steel Div., Republic Steel Corp., Youngstown 1, Ohio.**

Maulwal Complete Curtain Wall
Presents a curtain wall system which includes a complete range of panel facing materials. 4 pp. *Maul Macolla Corp., 1640 E. Hancock St., Detroit 7.*

Airtemp Product Catalog
Contains information on over 100 cooling and heating products. 24 pp. *Airtemp Div., Chrysler Corp., Dayton 1, Ohio.**

Aluminum Windows (AIA 16-E)
General catalog includes *Vampco* standard and custom windows for industrial and institutional construction. Shows many school installations. 48 pp. *Valley Metal Products Co., Plainwell, Mich.**

CEFCO Sewer Pipe, Perforated Pipe
Explains how bituminized fibre pipe can be used in house-to-sewer, septic tank, foundation drainage, industrial and other installations. 8 pp. *The Central Foundry Co., Newark 5, N. J.*

**Other product information in Sweet's Architectural File, 1956.*

(Continued on page 282)

BUILDING PRODUCTS LITERATURE AWARDS

The 8th Annual Building Products Literature awards were made on May 14th in Los Angeles at the Producers' Council Spring Meeting. Sponsored jointly by the AIA and Producers' Council to recognize excellence in product literature directed to the architect, the competition was judged by an all-AIA committee which included H. Griffith Edwards of Atlanta, chairman; John W. Hargrave, Cincinnati; John R. Magney, Minneapolis; James B. Newman, New York, and Paul Schell, Pittsburgh. Five Certificates of Exceptional Merit, 29 Certificates of Merit and 33 Honorable Mentions were announced:

CLASS I:
Manuals, Handbooks, Basic Information

CERTIFICATE OF EXCEPTIONAL MERIT
Sound Absorption Coefficients — Acoustical Materials Association, Modern Sheet Copper Practices — American Brass Co.

CERTIFICATE OF MERIT
Alcoa Architectural Stocks — Aluminum Co. of America; Engineering Manual — Bell & Gossett Co.; American Standard Specifications — Marble Institute of America; Technical Notes on Brick & Tile Construction — Structural Clay Products Institute; Curtain Walls of Stainless Steel — Committee of Stainless Steel Producers; Indiana Limestone Specifications — Indiana Limestone Institute

HONORABLE MENTION
Principles of Air Distribution — Tuttle & Bailey, Allied Thermal Corp.; Design Manual Welded Wire Fabric — Wire Reinforcement Institute; Tile for Swimming Pools — American-Olean Tile Company

CLASS II:
Literature on Particular Products

CERTIFICATE OF EXCEPTIONAL MERIT
Technical Data for Architects & Designers — Armstrong Cork Co.

CERTIFICATE OF MERIT
Fenestra Blue Book of Drafting Room Standards — Detroit Steel Products Co.; Paint Specifications & Color Selector — E. I. du Pont de Nemours & Co.; Plumbing Drainage Control — J. A. Zurn Mfg. Co.; P-55 Plumbing Catalog — American-Standard; Pabco Built-up Roofs Specifications — Pabco Products, Inc.; Ceco Windows — Ceco Steel Products Corp.; Truscon Metal Windows & Doors — Truscon Steel Division; Acoustical Materials — Celotex Corp.

HONORABLE MENTION
Fenestra Steel & Aluminum Building Panels — Detroit Steel Products Co.; Thermopane Manual — Libbey-Owens-Ford Glass Co.; Honeywell Customized Controls — Minneapolis-Honeywell Regulator; Ratings, Data & Dimensions — American-Standard; Sanymetal Toilet Compartments — Sanymetal Products Co.; Mills Movable Metal Walls — The Mills Co.; Product Specification Directory — National Gypsum Co.; Reinforced Built-up Roofs — Owens-Corning Fiberglas; Truscon Open Truss Steel Joists — Truscon Steel Division

CLASS III:
General Promotional Literature

CERTIFICATE OF EXCEPTIONAL MERIT
Architectural Achievements — Aluminum Company of America

CERTIFICATE OF MERIT
Sweet's Inserts — Aluminum Co. of America; Architectural Concrete — Portland Cement Association; Armstrong DeLuxe Corkwall — Armstrong Cork Co.; Architects Specification Guide — Kentile, Inc.; Marble for the Home — Marble Institute of America; Brick & Tile Series — Structural Clay Products Institute; Terrazzo with Trinity White Portland Cement — General Portland Cement; Metal Lath News — Metal Lath Manufacturers Association

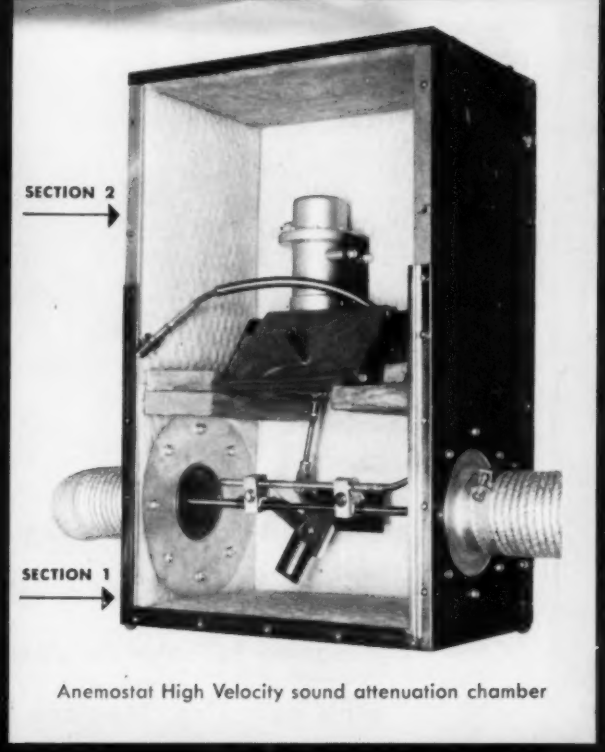
HONORABLE MENTION
Cleaning, Maintenance, and Care During Construction — Aluminum Co. of America; Flush Doors — Roddis Plywood Corp.; Ceramic Veneer — Architectural Terra Cotta Institute; Structural Facing Tile — Facing Tile Institute; Suntile — Cambridge Tile Mfg. Co.; Tile for Schools — Hospitals — American-Olean Tile Co.; Tim-Press — Timber Structures, Inc.; Architectural Metal Products — Kawneer Co.; Colors in Floor Tiles — Kentile, Inc.; Mosaic Tile Book of Beautiful Homes — Mosaic Tile Co.

CLASS IV:
Space Advertising Directed to Architects

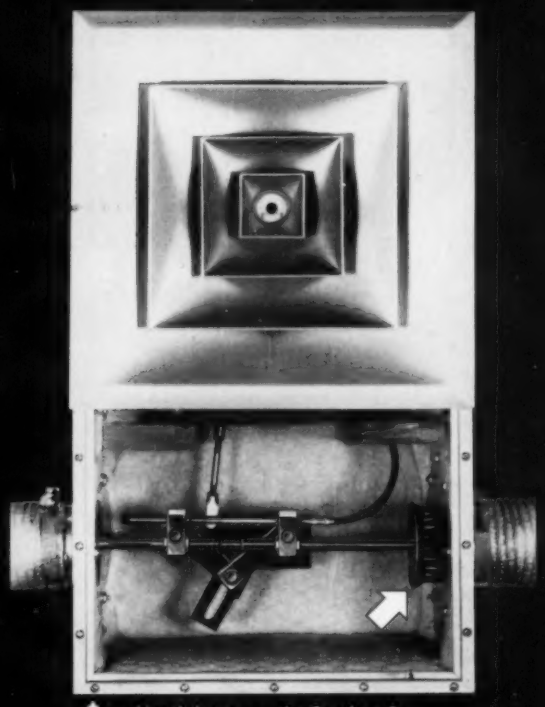
CERTIFICATE OF EXCEPTIONAL MERIT
Ad Series — Knoll Associates

CERTIFICATE OF MERIT
New Triple Strength Flush Doors — Kawneer Co.; Architectural Space Advertising — Armstrong Cork Co.; Ad Series — Structural Clay Products Institute; Architectural Advertising — A. M. Byers; Ad Series — Overly Manufacturing Co.; Series of Ads — Ceco Steel Products Co.; Ceramic Suntile Means More Color — The Cambridge Tile Company

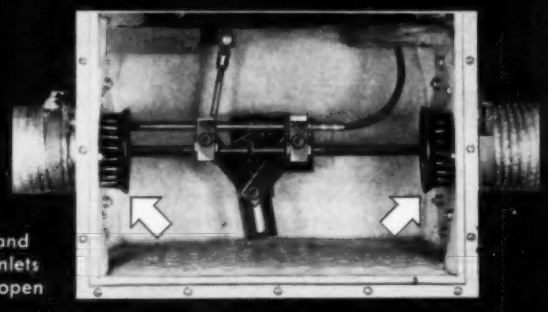
HONORABLE MENTION
Space Advertising — Davidson Enamel Products; Ad Series — E. L. Bruce Co.; Toplite Roof Panels — Owens-Illinois; Ad Series — 4th Region: S.C.P.I.; Asbestos Siding — Asbestos Cement Products Assn.; Granite — Cold Spring Granite Co.; Ad Series — American-Olean Tile Company; Arts and Architecture — Mosaic Tile Co.; Space Advertising — Sanymetal Products Co.; Frigidaire Imperial Wall Oven — Frigidaire Division, General Motors; Designs for the Future — Flour City Ornamental Iron Co.



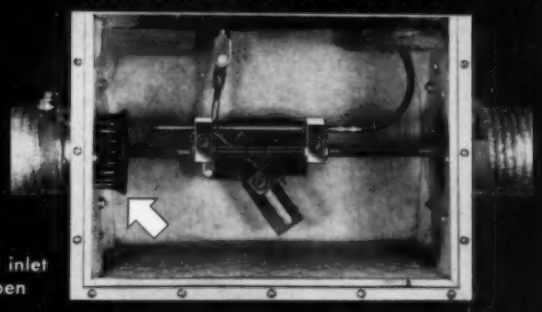
Anemostat High Velocity sound attenuation chamber



Hot inlet open in Section 1.
Anemostat in place covers Section 2



Hot and cold inlets 50% open



Cold inlet open

How to mix and diffuse high velocity air automatically

The Anemostat High Velocity sound attenuation chamber is divided into two sections. Both hot and cold air from the main risers enter Section 1, which is an acoustically lined blending chamber, in which the volumes of air are controlled by the Anemostat serrated rocket-socket valves. When the thermostat is set, the rocket-socket valves move slowly back and forth, thereby adjusting the volume of air supplied through the hot and cold inlets. The velocity of the air which enters Section 1, at from 3500 to 6000 fpm, is automatically reduced by expansion.

As the blended air meets the temperature requirements of the thermostat, it passes through a baffle arrangement into the acoustically lined Section 2 of the chamber, further reducing the db rating of the air.

The air then passes through the Anemostat Air Diffusers, where the aspiration effect causes mixing of room and supply air within the diffuser, resulting in further temperature equalization. The diffuser then delivers to the occupants of the room draft-free air at the desired temperature.

The Anemostat All-Air High Velocity distribution system offers other important advantages. It can be used with smaller than conventional ducts. It can be installed faster and at less cost. It requires no coils, thus eliminates leakage, clogging and odors. Furthermore, Anemostat round, square and straightline diffusers with high velocity units blend into a wide variety of architectural designs.

Write for 1956 New Products Bulletin and Selection Manual 50 to Anemostat Corporation of America, 10 E. 39 Street, New York 16, N. Y.

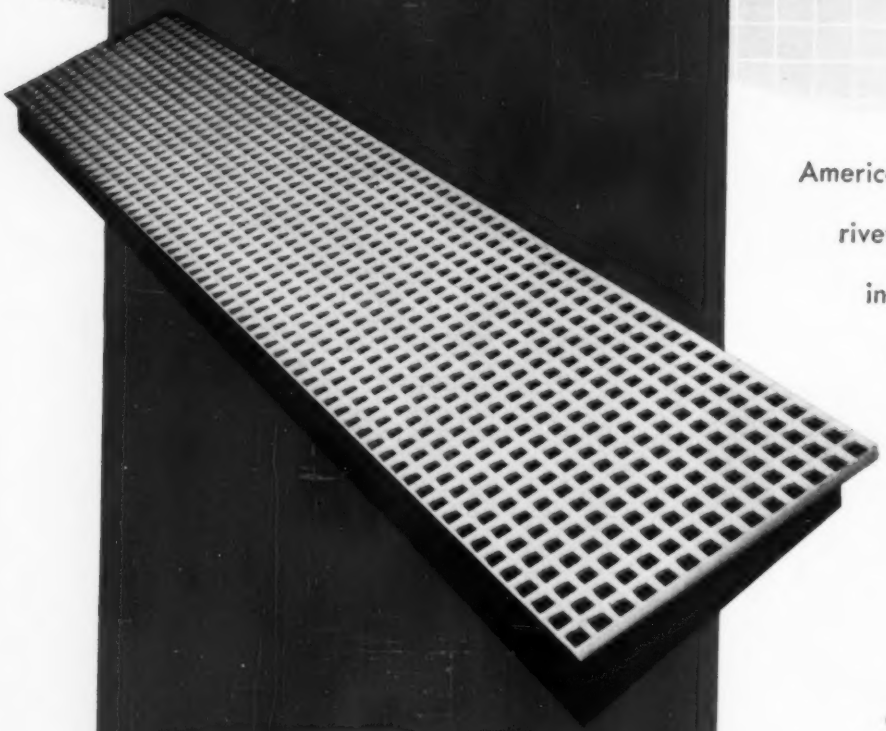


Anemostat: The Pioneer of All-Air High Velocity Systems

• • •

for new freedom of design, specify . . .

AMERICAN plastic louvers



American louvers have no welding or riveting, allow the architect or lighting engineer full scope for his creative designing. They can be used as individual fixtures, as full ceilings, or in modular patterns of any design. When used in luminous ceilings, American louvers trap and reduce noise. Open construction gives freedom of air flow, helps diffuse heat or air conditioning —allows free operation of sprinklers.

- **LIGHT IN WEIGHT—specific gravity o only 1.8.**
- **RESISTS HEAT up to 185° F.**
- **COEFFICIENT OF THERMAL EXPANSION is approximately .000045" per degree F. at room temperature.**
- **TRANSMITS highest amount of unshielded luminaire output consistent with high diffusion and moderate reflectance of pigmented plastic.**
- **CLARITY, due to high refractive index (1.59).**

You owe it to yourself to investigate this *new* plastic lighting medium. Write today for your free copy of the booklet, "Plastics in Modern Lighting."

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PORCELAIN ENAMEL VENEER—1

Courtesy Architectural Division, Porcelain Enamel Institute

Veneer-type porcelain enamel is used frequently for exterior and interior walls, exterior trim and special details. Typical usages in the form of detailed drawings are shown on the following two pages.

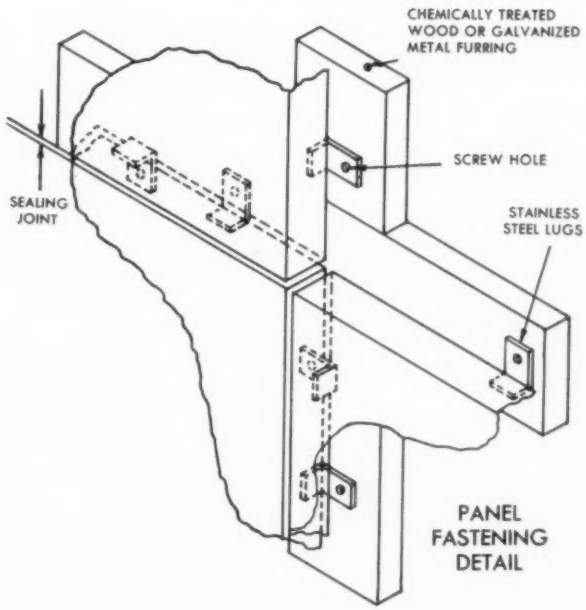
Sizes

The average size porcelain enamel on steel panel is 10 to 12 sq ft, with a recommended maximum size of 15 to 16 sq ft. Where large-size panels are required, special provisions may be required to avoid waviness.

Attachment

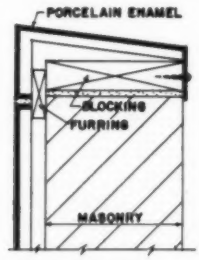
In general, the attachment device is screwed to furring previously fastened to the wall surface. Furring may be chemically protected wood, painted or galvanized metal set behind vertical or horizontal joints. Sometimes panels are fastened directly to the wall surface, but this is not recommended for remodeling or irregular surfaced structures because of alignment problems.

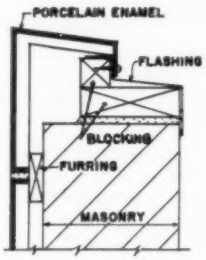
(Continued on page 231)

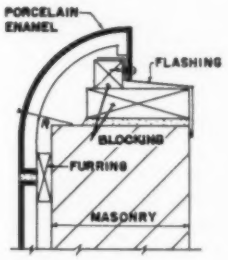


PANEL FASTENING DETAIL

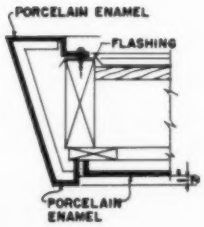
EXTERIOR WALL SECTIONS

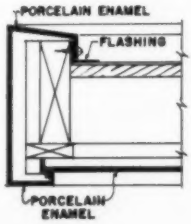


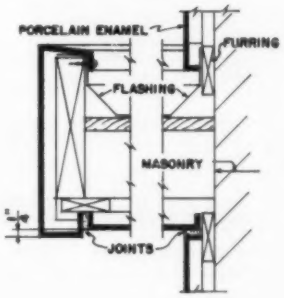




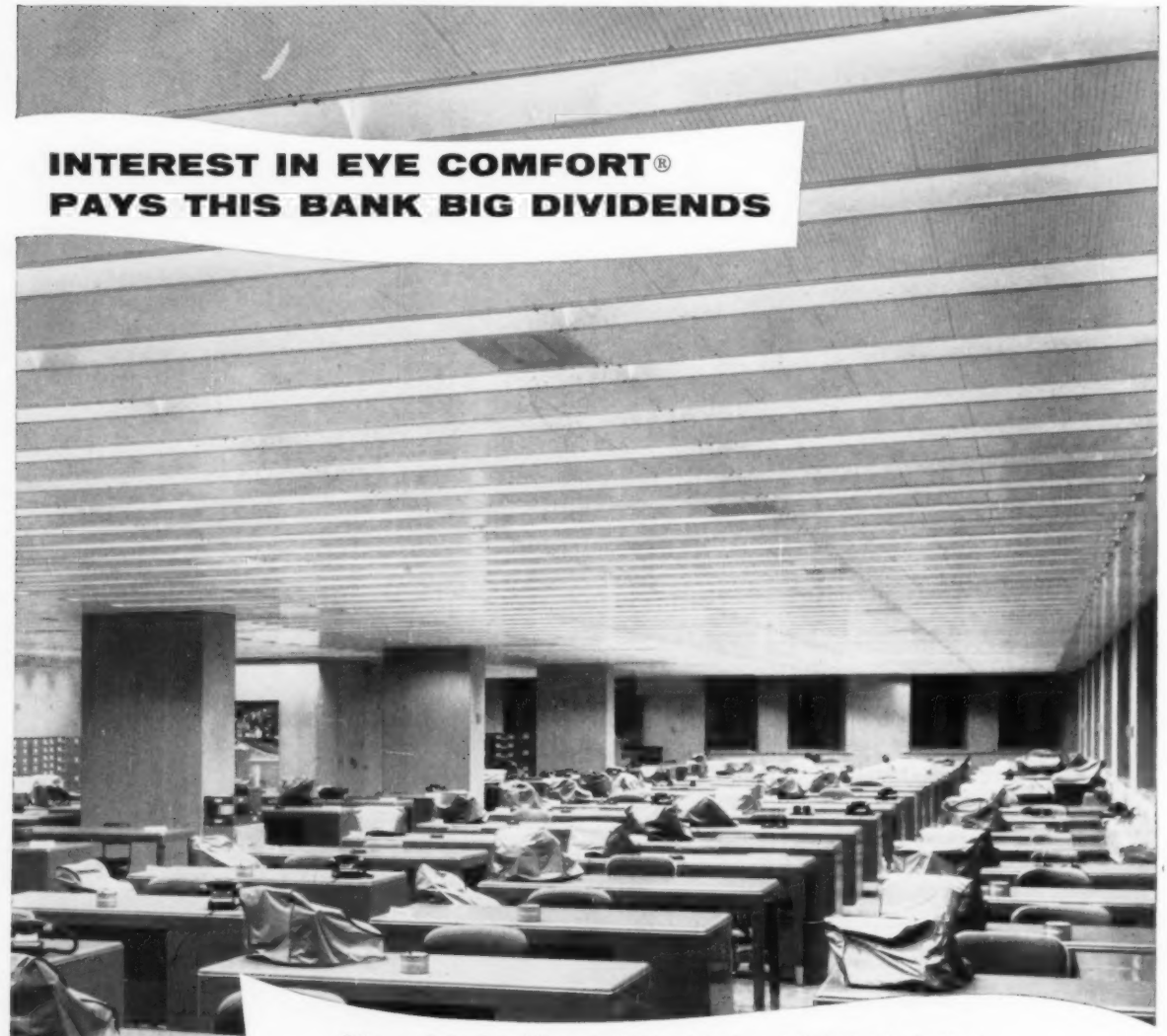
Wall Copings







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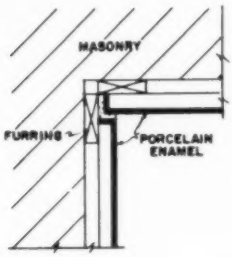
PORCELAIN ENAMEL VENEER—2

Courtesy Architectural Division, Porcelain Enamel Institute

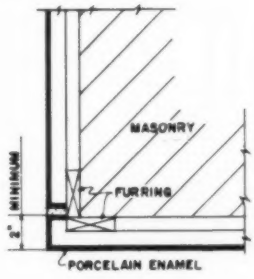
Back-up

Veneer installations normally are installed without back-up. However, unusually large panels, desire for exacting flatness etc., sometimes necessitates use of angle stiffeners, laminated backing or filler materials. Panels often are sound deadened to some extent by asphaltic compounds. In some cases plywood is bonded to backs of panels.

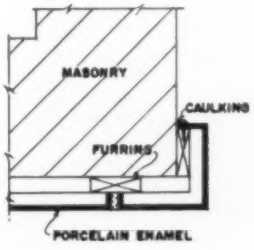
EXTERIOR WALL CORNERS AND RETURNS



Inside Corner

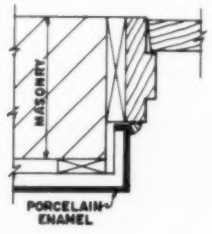


Outside Corner

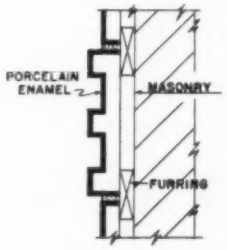


End Return—Square Corner

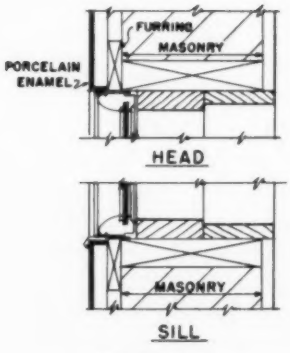
DOOR JAMB



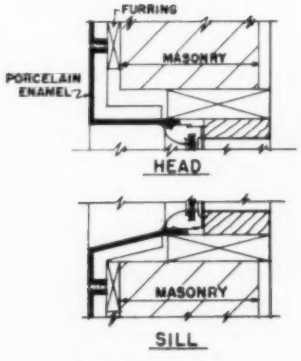
FLUTED PANELS



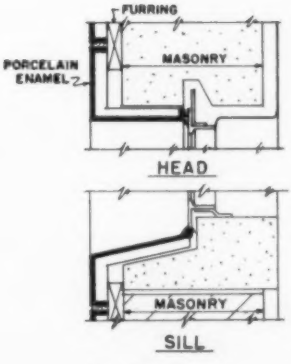
WINDOW TRIM



Show Window



Show Window—Recessed



Metal Sash

appearance IS ONLY half THE STORY!





New Smithcraft Architectural Troffers . . . fixtures which assure superlative lighting and clean, trim, uncluttered ceilings. There are no visible catches, latches, hinges, bolts or screws to mar the finished effect . . . and the wide choice of sizes and shielding have made Smithcraft the inevitable choice wherever outstanding appearance is desired.

However, equally important is the other half of the story . . . the exclusive "hidden" features that provide the unlimited versatility, high efficiency and cost-chopping economy in both installation and maintenance. For example, Smithcraft's patented Yoke-Aligner* so effectively simplifies installation that only a screwdriver is needed from start to finish! Developments like these are just as important to the architect and engineer as are Smithcraft's outstanding lighting performance and appearance.

You'll find the whole story in Smithcraft's "Architectural Troffers" Handbook. Write for your copy today!

*Patent #2,597,875 other patents pending

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AMERICA'S FINEST FLUORESCENT LIGHTING

MOVING SIDEWALKS

Continued from page 222

provided. A 32-in. wide motorway will carry 7500 passengers per hour. A 48-in. wide motorway will carry 12,000 passengers per hour.

Speed, Safety, Cost

Various enthusiasts have made a number of interesting claims regarding the future of the passenger motorways. Many of these may come true. There are several problems to be faced, however, in any realistic evaluation. These include: potential speed and length of units, safety considerations, and costs.

Firstly, it is doubtful whether the speed of a single lane motorway can be made to exceed 200 ft per minute, the limitation being the safety in stepping on and off the motorway. Such speed would limit the travel to the rate of about 2½ mph or to the speed of a normal walk. It would take about 5 minutes to cover a distance of 1000 ft.

Secondly, the idea of using parallel belts traveling at different speeds — for example, three motorways, the first traveling at 200 ft per minute, the second alongside of it at 400 ft per minute and the third at 800 ft per minute — would make it necessary for passengers to step sideways from one motorway to the other. At present, the majority of people find considerable difficulty in accomplishing this movement with any degree of safety. Consequently, a system of parallel belts running at different speeds appears to be unworkable at least for the life of the present generation.

Thirdly, the length of the motorway. The longest motorway so far constructed has a travel of 227 ft. This could probably be carried to 1500 ft and perhaps even 3000 ft. There is a limit, however, and further increase over this range would present several technical problems not easily solved.

Fourthly, the perennial problem of cost. A running foot of a motorway requires an initial outlay of $200 to $600. This compares favorably with the cost of an escalator which is roughly $1000 per foot. A motorway 100 ft long would cost initially $20,000 to $60,000. Based on a 30 year life, the daily cost, including amortization, maintenance and insurance would be in the range of $6 to $12, which is not prohibitive. On the other hand, extreme motorways many thousands of feet long, assuming such motorways could be constructed at the rate of $500,000 per 1000 ft, would be costly.

Potential Applications

It is obvious that passenger motorways can contribute little to the speeding up of normal pedestrian traffic. Their most successful applications pivot about the principle of saving human energy for building good will or for the economic advantage of inducing large groups of people to reach an otherwise undesirable destination. This occurs in at least two instances: (1) where it is necessary to plod painfully up a grade and (2) where heavy or bulky baggage or packages must be carried through unreasonably long distances. There is always, of course, the discouraging combination where heavy baggage must be carried up grade. In such cases the motorways are practically indispensable.

Such instances can be recalled in many of our transportation centers, such as bus terminals, railroad stations, steamship piers and airports.

In all such instances passenger motorways can be of genuine help. One arrangement that suggests itself for long railroad platforms or airport corridors would be a series of standard length motorways installed end to end with a 10-ft spacing between the units. A passenger may then ride with his baggage a distance of 80 or 100 ft and then either get off or walk the 10 ft and continue riding on the next unit, and the following unit until he reaches his destination.

Sport stadiums are other offenders. After the long trip to the stadium, there still remains the long haul up a grade to one's seat.

There are other suggested uses of motorways such as crossovers at congested streets or over highways to reach shopping centers, to span distances between groups of shops, to provide transportation between shopping centers and remotely located parking fields, to span distances in huge parking fields and similar instances.

Code Rules

The establishment of code rules for new devices is often frowned upon as a limit to inventiveness. To some extent this is probably true. But conveying people involves a definite responsibility nonexistent when materials are conveyed.

The art of passenger motorways is now sufficiently advanced to permit the preparation of some rules so as to prevent irresponsible designs and to guide future designers who may gain from the experience of the early manufacturers.

The rules should include at least the following requirements:

(1) The entrance and exit should be at the ends of the motorway. Sidestepping from one motorway to another should be permitted only when both motorways travel at the same speed.

(2) Motorways should be provided with balustrades to guard the sides and with handrails moving at the same speed as the motorways.

(3) The width of the motorway should be limited to permit every passenger to have access to the handrails.

(4) Speed to be limited to about 200 ft per minute for safe access and egress.

(5) Clearance between the moving and stationary components to be limited to ⅛ in. for safety.

(6) At the entrance and the exit, the handrails should extend at least 2 ft beyond the moving platform.

(7) Emergency stop buttons should be provided at strategic points.

(8) Protective devices should be provided such as non-reversing device, brakes, overspeed governor, broken handrail device, a stopping device to operate if the motorway platform separates and other similar devices.

The Future

Passenger motorways streaking along at speeds of 30 to 50 mph would be a dreamer's delight. It is possible that some day metropolitan areas would be wrapped with speeding motorway ribbons darting here and there, now in a straight-away, and then in a motospiral encircling buildings all the way up.

It is possible that sidestepping from one speeding ribbon to a still faster one would be so commonplace as to be indulged in by all in the most carefree manner.

Certainly, the continual growth of large population centers will force the adoption of a more efficient means of transportation than by the already overcrowded subway train systems or by individual automobiles on traffic congested streets. Some day, in a not too distant future, the average city travelling time period will become so lengthy as to be ridiculous. The local and express motorways moving continuously may then become the solution to the problem and all men, including the oppositionists, will be only too glad to avail themselves of this means of transportation.

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What makes Crane America's





A scrub-up sink that's easy to keep sterile. This special vitreous glazed, all-ceramic product resists thermal shock, abrasion, acid, and stains. Withstands expansion and contraction without crazing. Special shape permits surgeons to scrub to shoulder without touching non-sterile parts.

CRANE

leading specialist in hospital plumbing?



Ask any expert about hospital sanitation. He'll probably give you two reasons why Crane leads in this field:

1) Crane carries on continuous research, keeping abreast of the newest hospital techniques.

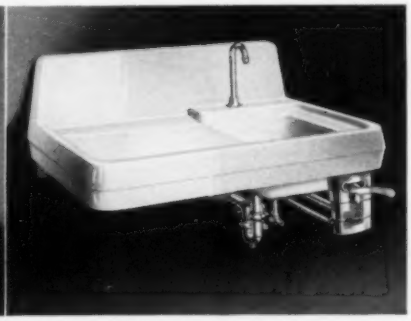
2) Crane uses this information to develop a complete line of plumbing fixtures as specialized for today's hospital as X-ray equipment.

This means that when the hospital is Crane equipped, it's as modern in its plumbing as in its radiological laboratories. And—*every* fixture is designed for its particular job, so repair and maintenance problems are reduced to a minimum.

Why not talk to your hospital clients about Crane? You'll find that they agree with your preference for Crane hospital fixtures.



New infants bath (2H-567). 38″ x 27″ Duraclay bath with 13″ x 15″ basin. Water gauge. Dial thermometer. 20-gallon stainless steel mixing tank behind wall. Supply fitting has thermostatic mixing valve. Shampoo spout with hose, spray and hook.



New surgeons lavatory and instrument tray (1H-388). Crane Duraclay lavatory with spacious basin, convenient instrument tray. Gooseneck spout with aerator. Integral ledge prevents water from spilling. Knee-action mixing valve.

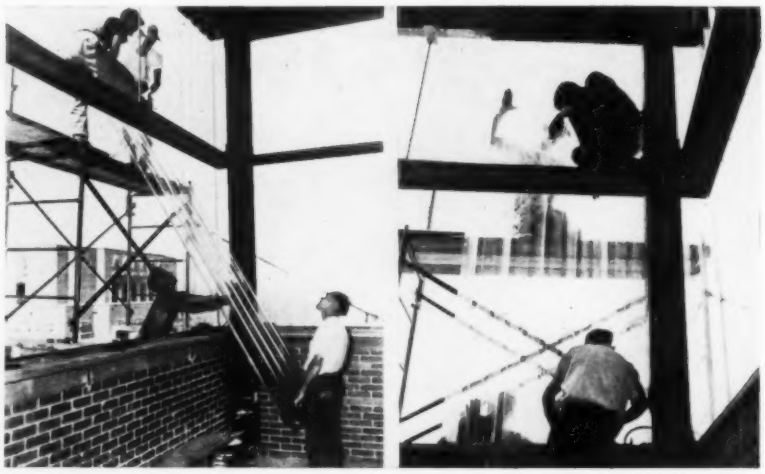
CRANE CO. General Offices: 836 South Michigan Avenue, Chicago 5
VALVES • FITTINGS • PIPE • KITCHENS • PLUMBING • HEATING

TECHNICAL ROUNDUP

(Continued from page 224)

ACRYLIC PLASTIC PENTHOUSE HOUSES MICRO-WAVE GEAR

A "plastic penthouse" on top of the 14-story equipment building of the Southern New England Telephone Company building in New Haven, Conn., houses micro-wave equipment intended for transmission and reception of television programs and telephone conversations. The sidewalls of Plexiglas acrylic plastic were selected because they are



free of metallic content, thus permitting micro-wave signals to pass through without interference, and are strong (able to withstand 100-mph gales), leakproof and transparent. They are said to be among the largest extruded, corrugated panels ever made of this material — 11 by 3 ft. For structural strength they were designed with four V-shaped corrugations, each 3 in. deep, running the length of the sheet.

Each plastic sheet was fabricated into a panel, with a stainless steel shoe and cap, and installed between a waist-high, brick-veneered retaining wall and a steel channel at the top of the opening. It was fastened also, by means of a special bolting assembly, to a supporting beam 6 ft above the wall. To assemble one sheet to another, tongues and grooves were mated, holes drilled through the mated parts at 4-in. intervals, and nylon fasteners or rivets inserted to hold the sheets together tightly and prevent leaks. Nylon fasteners were used because they will not distort micro-wave signals. The weight of the plastic sheets (about 30 lb) insures a watertight seal on a rubber P-strip which was bonded to a copper-covered channel on the wall. All connections are reported to be watertight.

The housing was created by three firms: Rohm & Haas supplied the Plexiglas; Sheffield Plastics, Inc., designed the die and extruded the sheets; and Valley-National Corp. carried through the installation.

Legal Cases for Contractors, Architects and Engineers

This book discusses 52 most common problems and shows the rulings the courts have made in interpreting them. By I. Vernon Werbin, member of the New York Bar and Licensed Professional Engineer. 453 pp. $6.00. *McGraw-Hill Book Co., Inc., 330 West 42nd St., New York 36.* *(More on page 240)*

Get the Facts on Why "Paper Cured" Concrete is Best



Read Why Sisalkaft is The Most Effective Curing Medium



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Tough • Waterproof
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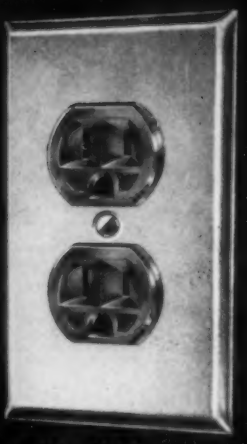
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IT PAYS TO HAVE HUBBELL GOOD CONNECTIONS

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Square Feet of Floor Space

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Hubbell Wiring Devices



NO. 5262
GROUNDING-TYPE
DUPLEX RECEPTACLE
. . . representative of the specification grade Hubbell wiring devices (convenience outlets, switches and plates) used throughout the building.



Of all the vital electrical equipment installed in a new building like the Prudential in Chicago, the wiring devices are about the only items that show on the surface. As a result, these wiring devices serve as one of the few visual evidences of the safety, efficiency and dependability of the overall electrical system. In fact, we feel it is safe to say that the use of Hubbell switches, convenience outlets, wall plates, etc., clearly suggests "specification grade" *right down the conduit* from panel boards to switch gear.

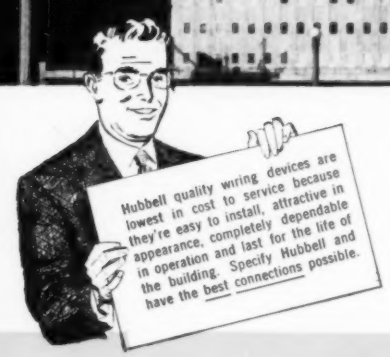
Hubbell is proud to be associated with the other electrical suppliers for the Prudential Building. It is only through *good connections* like these that business and industry can make the widest, safest and most economical use of electric power.

New 41 Story Mid-America Home Office Building of the Prudential Insurance Company of America, Chicago, Illinois.

Consulting Engineers on the electrical work are Naess & Murphy, Architects and Engineers, Chicago, Illinois.

Electrical Contractor: Fischbach, Livingstone & Comstock, Chicago, Illinois.

Hubbell Supplier: Chicago Electric Supply Co.



Hubbell quality wiring devices are lowest in cost to service because they're easy to install, attractive in appearance, completely dependable in operation and last for the life of the building. Specify Hubbell and have the best connections possible.

Harvey Hubbell, INC.

DEPT. R BRIDGEPORT, CONNECTICUT

H-151



Modern Hospitals Choose Latex Paints

These durable, easily applied paints cut time and labor costs . . .

bring lasting client satisfaction



It's easy to see why more and more architects and specifications engineers are turning to latex paints for heavy as well as light construction work. These paints are quickly and easily applied, dry so fast they can be recoated the same day to help finish the job ahead of schedule. Their lack of painty odor means painted rooms can be occupied right away. Cleanup is a breeze because latex paints can be washed out of the equipment with ordinary tap water.

Latex paints dry to a scrubbable, durable film for a maximum of client satisfaction. Leading paint manufacturers make latex paints in a wide range of colors and in texture and specialty paints. For further information write Dow Plastics Sales Department PL 582 R. THE DOW CHEMICAL COMPANY, Midland, Michigan.

Here's how Latex Paints are used . . .



ON PLASTER SURFACES. This is the most common application of latex paints. Because they have excellent resistance to alkalinity, they can be safely applied right over fresh plaster. No need to wait days for the plaster to cure completely. If suction or over-gauging occurs in the plaster, latex paints still dry with a uniformity of appearance.

In most cases, two coats of latex paints are used on fresh plaster. The first acts as a sealer. Because latex paints dry rapidly the second coat can be applied the same day. From the application of plaster to completed paint job is days shorter with latex paints than with many other kinds of paint!



FOR EXTERIOR MASONRY. Exterior masonry paints are durable, self cleaning, resistant to alkali and stain. Used on cinder block, cement block, stucco and similar masonry surfaces.



FOR INTERIOR BLOCK. Latex paints have excellent sealing properties over cinder block, concrete block, as well as many other porous surfaces.



FOR DRY WALL CONSTRUCTION. Latex paints give the same excellent results—a smooth, colorful surface that's washable and has outstanding durability!

LATEX T.M.

you can depend on DOW PLASTICS

DOW

TECHNICAL ROUNDUP

LIGHT PLASTER ON STEEL FRAME FIREPROOFS PLANT

A light steel frame fireproofed with lightweight aggregate gypsum plaster proved to be the answer to the design and construction problems involved in the building of the Chrysler Division's new 7-acre, two-story Body Paint Plant in Detroit. Aside from satisfying the rigorous fire-protection requirements of an extremely hazardous body paint plant, the structure had to meet the following needs: (1) Deadload weight had to be kept to a minimum. (2) Mechanical and electrical equipment, involving large ducts and conduits, had to be located in such a way as to maintain maximum headroom. (3) It was necessary for construction to proceed while the building site was being used for production on a 16-hr schedule.

In order to satisfy all requirements, light steel framing with shallow trusses supported the structure over 40- by 68-ft bays uninterrupted by columns. A 1-in. thickness of lightweight aggregate gypsum plaster was applied on lath to the sides and soffits of all trusses and beams and all first-floor columns to give a 4-hr fire resistance rating. The use of open-web trusses permitted passing mechanical and electrical systems through boxed-out, fireproofed open spaces between the truss struts, as shown in the illustration above. In addition, a lath and plaster ceiling was used on the first floor under the steel forming for the concrete second floor. Since the membrane fireproofing around trusses and the fireproofed ceiling were suspended or attached, no forming or shoring was necessary, and so the floor area was relatively free of interference. Therefore, production continued during construction, and plant equipment was moved into each area as soon as it was completed.



Construction figures showed an appreciable cost savings resulting from the use of the light structural skeleton. Architects were Albert Kahn Associated Architects and Engineers, Inc., of Detroit.

More M.I.T. Summer Courses

Three courses of particular interest to architects and engineers will be offered during August at the M.I.T. Summer Sessions. "Structural Design for Dynamic Loads" is scheduled for Aug. 6 through Aug. 17 and will cover methods of analysis and principles of design involved in structural design for important dynamic loadings.

"The Artist, Materials and Technology" is planned for Aug. 13 through Aug. 31 and will introduce artists and architects to many recent pertinent industrial techniques.

"City and Regional Planning," scheduled for Aug. 20 through Aug. 31, will include such seminar topics as modern concepts of planning, urban renewal, planning for schools and public recreation, planning programs for metropolitan areas and subdivision control.

Full details and application blanks for the Summer Sessions can be obtained from the Summer Session Office, Room 7-103, Massachusetts Institute of Technology, Cambridge 39, Mass.

(More Roundup on page 244)

New AJAX HARDWARE OF PRESTIGE Cabinet Hardware

Luxury at Low Cost!

Add sales appeal and beauty throughout the house with these brand new cabinet hardware items from AJAX. Custom beauty plus up-to-the-minute design makes a combination that will spark interest and make home sales easier. Unconditionally guaranteed and competetively priced. See the complete AJAX line at your nearby dealer.



EARLY AMERICAN

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Drawer knobs in pink baked enamel or polished copper finish with companion solid copper back plates which are sold separately.



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SPRING-EZE FLEXIBLE DOOR STOP

Ends stubbed toes and scraped ankles. Exclusive bulge eliminates kinking.



NO. 540 CONCAVE BEVELED EDGE DRAWER PULL

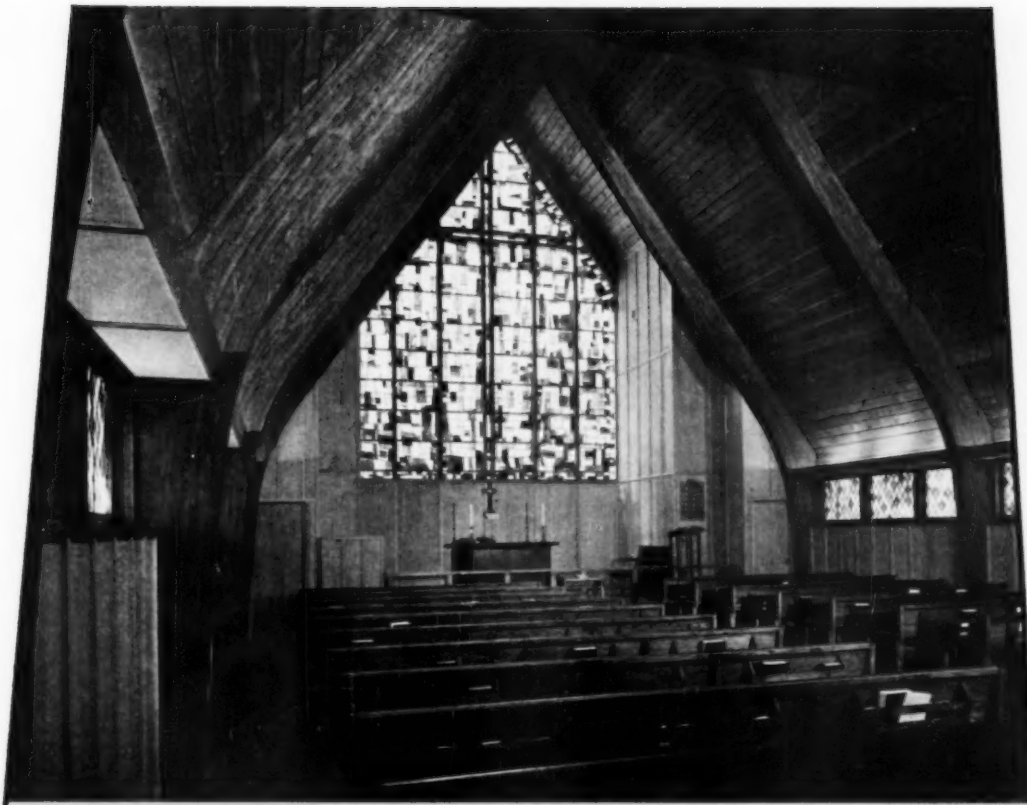
Maintains standard 3" center, yet allows a 1" longer length at the top than any other pull of its type. (Protected by Design Patent No. D-175,473). No. 054 back plate sold separately.

AJAX HARDWARE OF PRESTIGE

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St. George's Episcopal Church, Durham, New Hampshire. Glued laminated arches by Timber Structures, Inc. are 32 feet in span, spaced at 12 feet, and covered with 3-inch tongue-and-groove sheathing. Architect: John A. Carter, Nashua, N. H.; Contractor: Ernest Saunders, Alton Bay, N. H.

atmosphere for worship

..built around the beauty of glued laminated timber arches by Timber Structures, Inc.

For "...dignity, the sense of mystery...forthrightness and practicality..." this church won the 1955 award of the Church Architectural Guild for churches seating less than 300.

In the glued laminated arches which frame the building, architectural artistry is combined with the natural beauty of fine wood. Strict quality control and 27 years of experience guarantee finest workmanship; specialized equipment, much of it exclusive with Timber Structures, Inc., brings reasonable cost; and 33 acres of modern plant capacity make possible the kind of service that architects and contractors appreciate.

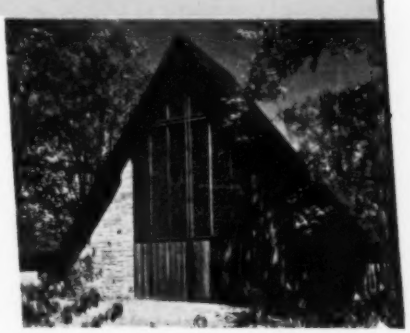
In planning your next church, get all the facts on glued laminated timbers from your nearest Timber Structures representative; or write us directly for the new brochure... "Churches of Beauty and Economy". No cost or obligation.

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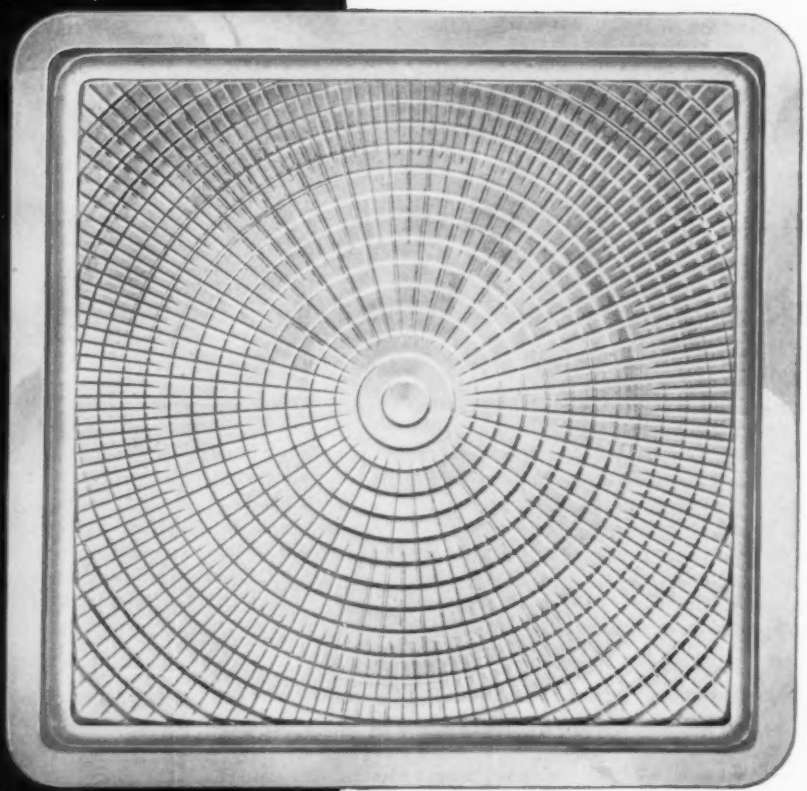
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amcolens in industry

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for OFFICES



AMCOLENS creates a cheerful office environment where employees enjoy working. Warm, colorful light is multiplied and directed to desks and cabinets by clear glass prisms, the most exact means known to science for controlling the direction of light.

for CONFERENCE ROOMS



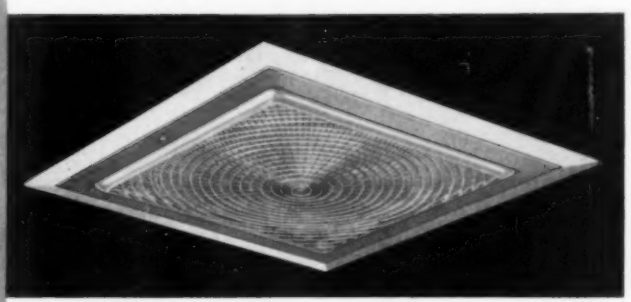
Handsome, deep AMCOLENSES provide diffused shadowless illumination and blend with the overall color scheme.

for LOBBIES

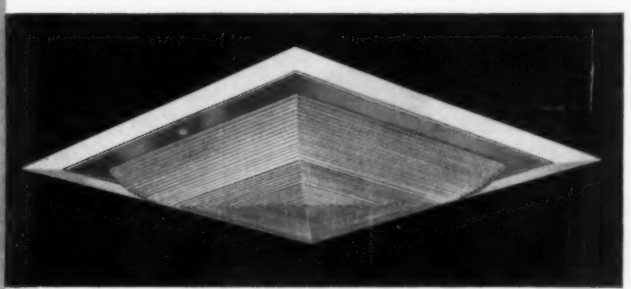


The rich subtle effect of the two-light deep AMCOLENS enhances the decor of any business gathering place. In terms of lighting efficiency and practicality, clear prismatic AMCOLENS has no equal.

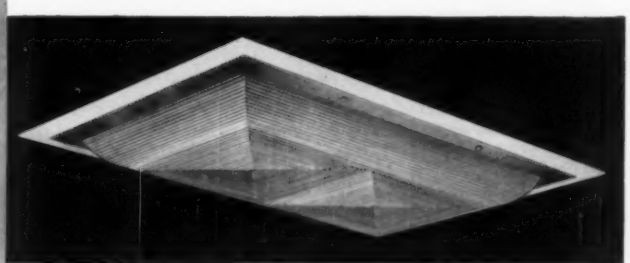
TYPES of recessed ELIPTISQUARES



Recessed Flush Eliptisquare—Four eliptisquare sizes accommodate 6½", 8½", 10⅜" and 12" AMCOLENSES. The eliptisquare reflector multiplies light output.



Deep Eliptisquare—Three sizes utilize 8½", 10⅜" and 12" AMCOLENSES.



Two Light Eliptisquare—Accommodates one 9½" x 16½" AMCOLENS which incorporates two symmetric lens elements each with its own lamp and eliptisquare reflector. All eliptisquare units have separate hinged doors which rotate open on two spring pin hinges.

AMCOLENSES ARE ANOTHER *Lighting Research* DEVELOPMENT OF ART METAL

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DFPA® TESTED QUALITY

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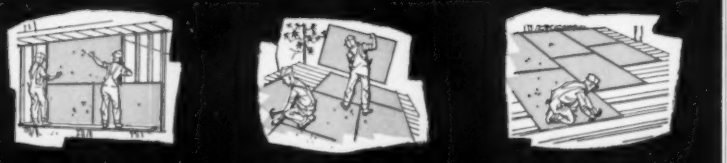
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Douglas Fir Plywood Association (DFPA), Tacoma, Wash.—a non-profit industry organization devoted to product research, promotion and quality maintenance.

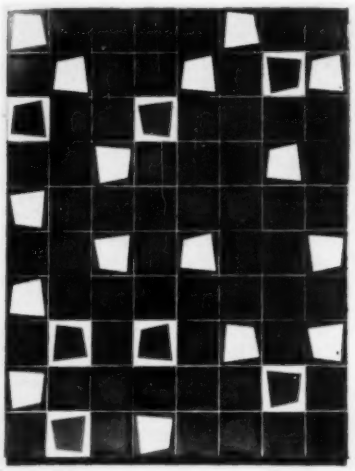


PLYSCORD® for wall sheathing
PLYSCORD® for roof decking
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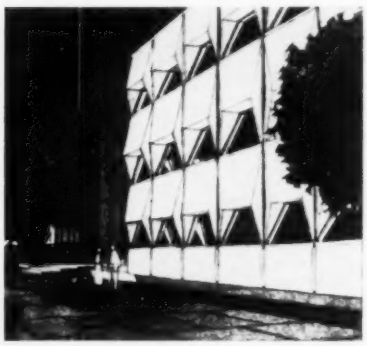
TECHNICAL ROUNDUP

ARCHITECTS WIN COMPETITION FOR ALUMINUM WALL DESIGNS

A $10,000 first prize was awarded to Alfred Clauss, AIA, of Philadelphia, from 295 entrants in a competition for new design and construction ideas for aluminum curtain wall buildings sponsored by the Aluminum Company of America and the National Association of Architectural Metal Manufacturers.



Mr. Clauss' design, a section of which is shown above, features a mosaic pattern effect utilizing an unusual-shaped, pressed aluminum panel and a variation of the Alcoa Architectural colors. The design also offers a new method of fastening metal panels to a building framework.

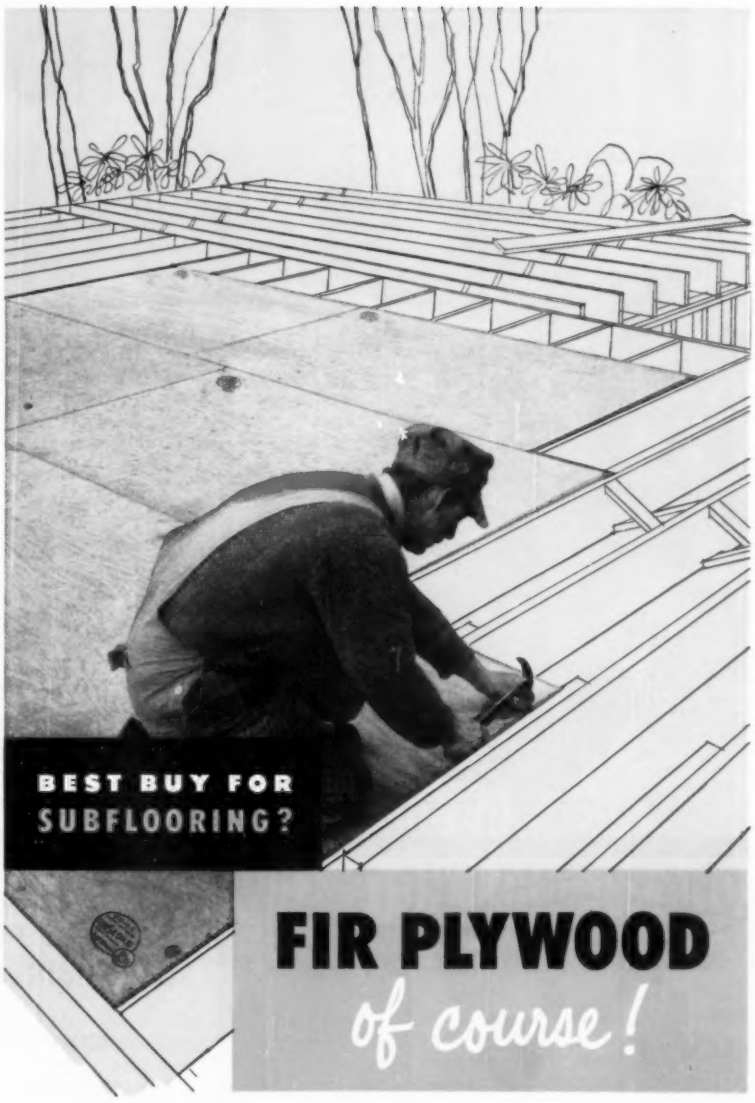


Second prize of $5000 went to George W. Qualls and William E. Cox, Philadelphia architects, for a unique design using folded aluminum panels, as shown in the perspective above. The design incorporates the mechanical systems of the building into the hollow space in the panels.

Third prize of $2500 was won by Robert P. Darlington of Champaign, Ill., who used extruded aluminum fins, backed by a translucent plastic panel, for both sun shades and refrigeration circulation. Fifteen honorable mention award winners received $500 each. Judges of the competition were architects Max Abramovitz and Louis Skidmore of New York and Sigurd Edor Naess of Chicago. Paul Schell, Pittsburgh architect, served as professional advisor to the entrants.

Plastic Design in Structural Steel was the subject of the Eighth National Engineering Conference of the American Institute of Steel Construction at Lehigh University in April. This is a new design method being put into practice, applicable to rigidly connected frames, which makes possible the use of lighter structural members than would be indicated by conventional design using elastic limit as the criterion. By plastic analysis, the engineer is able to determine the true load carrying capacity of the structure. Not only are savings possible in steel, but in office design time as well. While the subject is not new, it is only recently that sufficient tests on full-size members have been conducted, and analytical techniques developed, to make the design method practical.

Thermal Conductance (C Factor) Standards for preformed above-deck roof insulation are going to be provided to simplify specification of insulation by architects, applicators, manufacturers, etc., according to a recommendation approved by the Commodity Standards Div. of the U. S. Dept. of Commerce. Five standard thermal conductances, in Btu/(hr) (sq ft) (deg F), were recommended in the Simplified Practice Recommendation: 0.36, 0.24, 0.19, 0.15 and 0.12. The thickness of a particular insulating material required for each standard C factor can be obtained by the formula "thickness (in inches) equals k/C." Spokesmen for the insulation manufacturers said, "The successful achievement of this standardization and simplification will make it easier for the owner, architect or engineer to specify the insulation value he seeks; easier for the general contractor and roofing contractor to follow the specifications as written; and will result in economic standardization at the manufacturing level."



here's why...

- 50% time and labor savings
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- Won't warp, twist or cup
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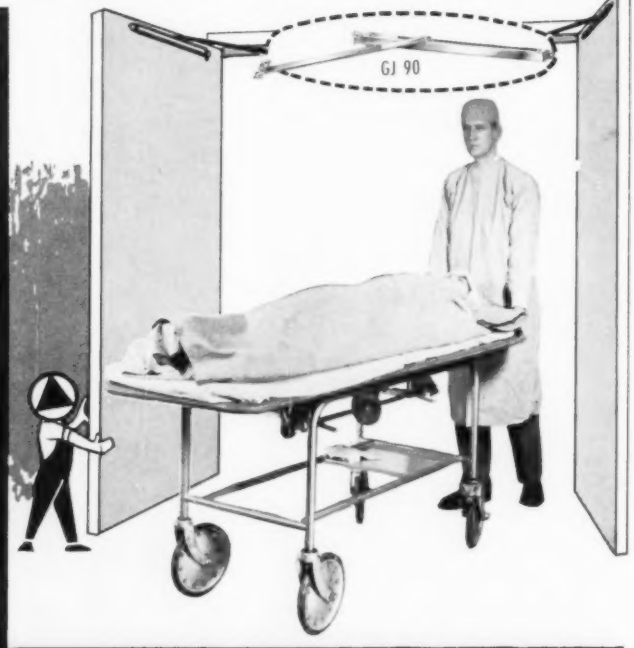
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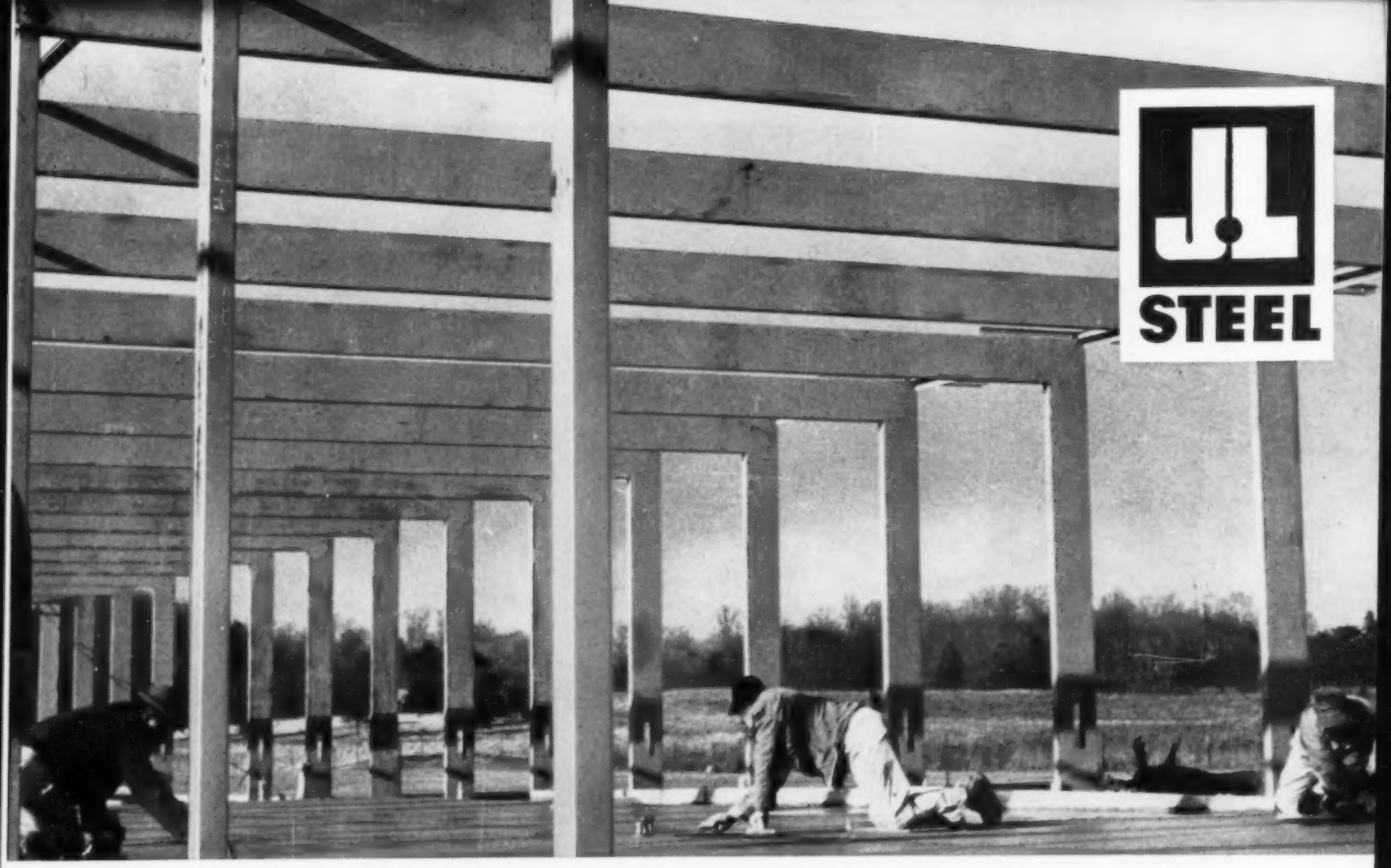
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RIGID STEEL BENTS FORM BASIC FRAME OF WHEATLEY SCHOOL, EAST WILLISTON, LONG ISLAND

Boxed and Exposed J&L JUNIOR CHANNELS give classrooms clean, fresh appearance

Architect W. Frank Bower, Jr., of La Pierre, Litchfield & Partners, New York, has employed 130 tons of Junior Channels in the new two million dollar Wheatley School (East Williston, Long Island Junior-Senior High School). The 12″, 10.6# Junior Channels are boxed to make rigid bents forming the basic frame of the classroom buildings.

The bents were fabricated in two sections by De Voe Iron Works, Inc. of Long Island City, then trucked to the job. Erection went fast. Mr. Stephen J. De Voe, Jr. reported that it required only five hours to erect the 56 bents in one 232′ x 71′-4″ building.

Mr. Bower summed up the advantages of using J&L Junior Channels in the school's unique design by saying:

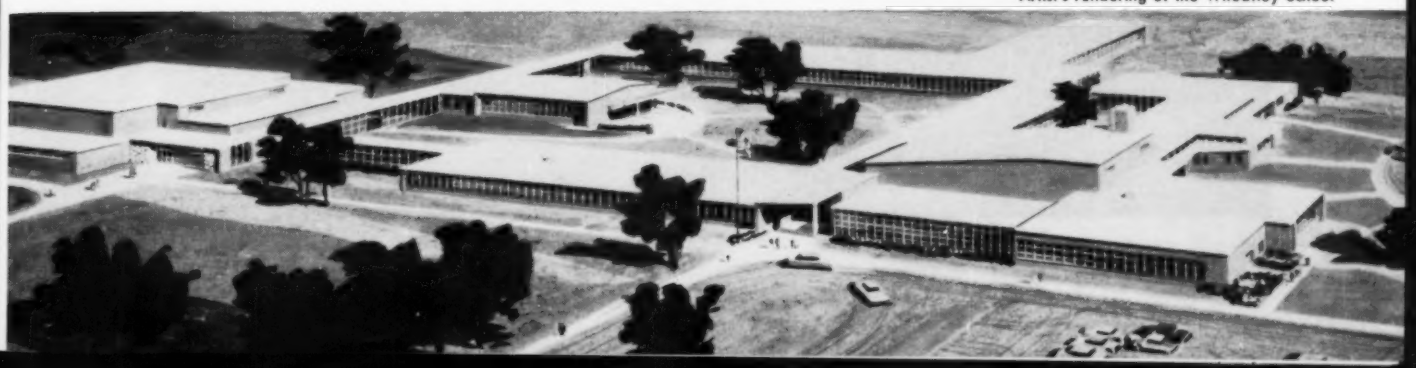
"The exposed structural steel bents or rigid frames are the basic frame of the building. This was done to take advantage of insulating cement and wood fiber structural plank which has excellent acoustical properties. In addition we avoid the use of hung ceilings. As a result we estimate savings of $40,000 to $50,000 on this $2,000,000 building.

"This type of construction eliminates the confined air space between roof and hung ceiling which, unless mechanically ventilated, stores hot air to reflect heat on the classrooms in the warmer months. The rigid frames give a cleaner, fresher look than alternate materials. We prefer them as being more interesting than the usual flat hung ceiling. They also give us a chance to introduce more color into the classrooms."

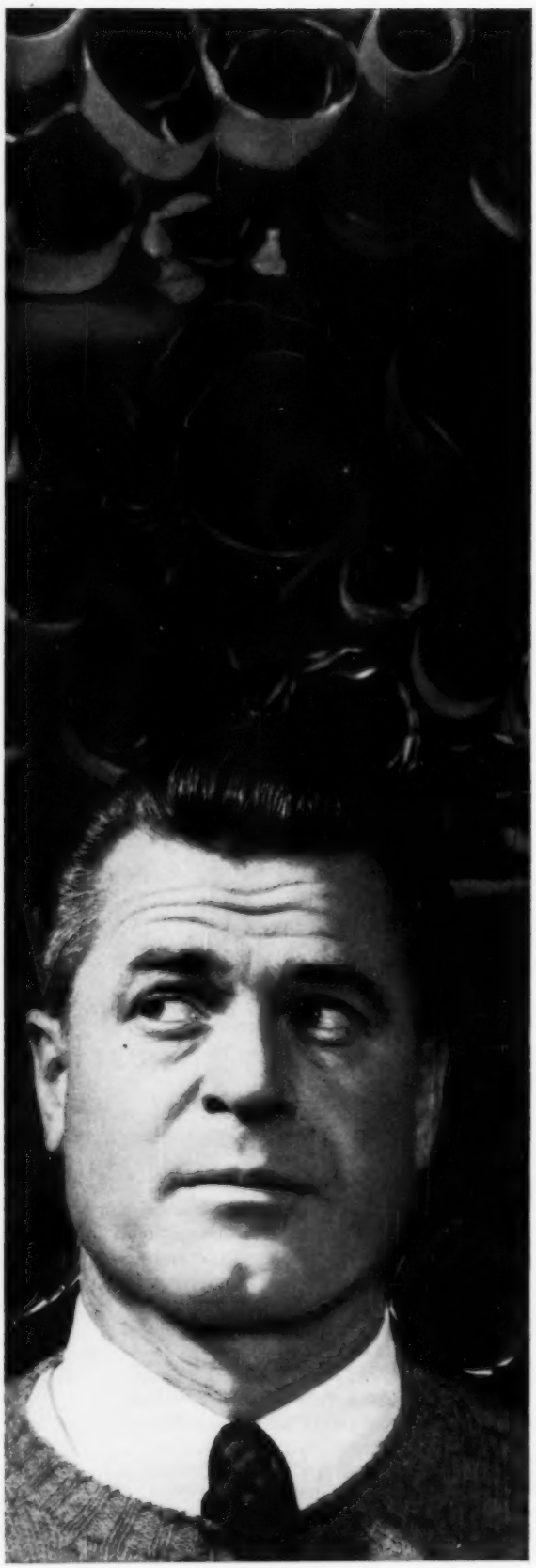
If you're designing light occupancy buildings, ask us for complete information about J&L Junior Channels. Take advantage of the strength of these light weight hot rolled sections, and their adaptability to a wide range of architectural design.

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Artist's rendering of the Wheatley School







Be careful of this furtive character. He can really hurt your reputation. For if Skimpy Wiring has crept into your blueprints, homes built from them won't be able to cope with the electrical demands of modern living.

look who may be hiding in your blueprints

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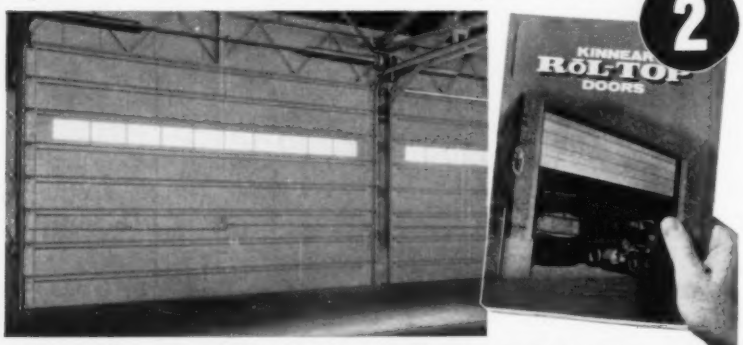
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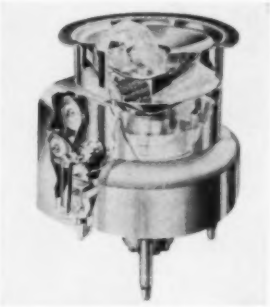
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(Continued from page 225)

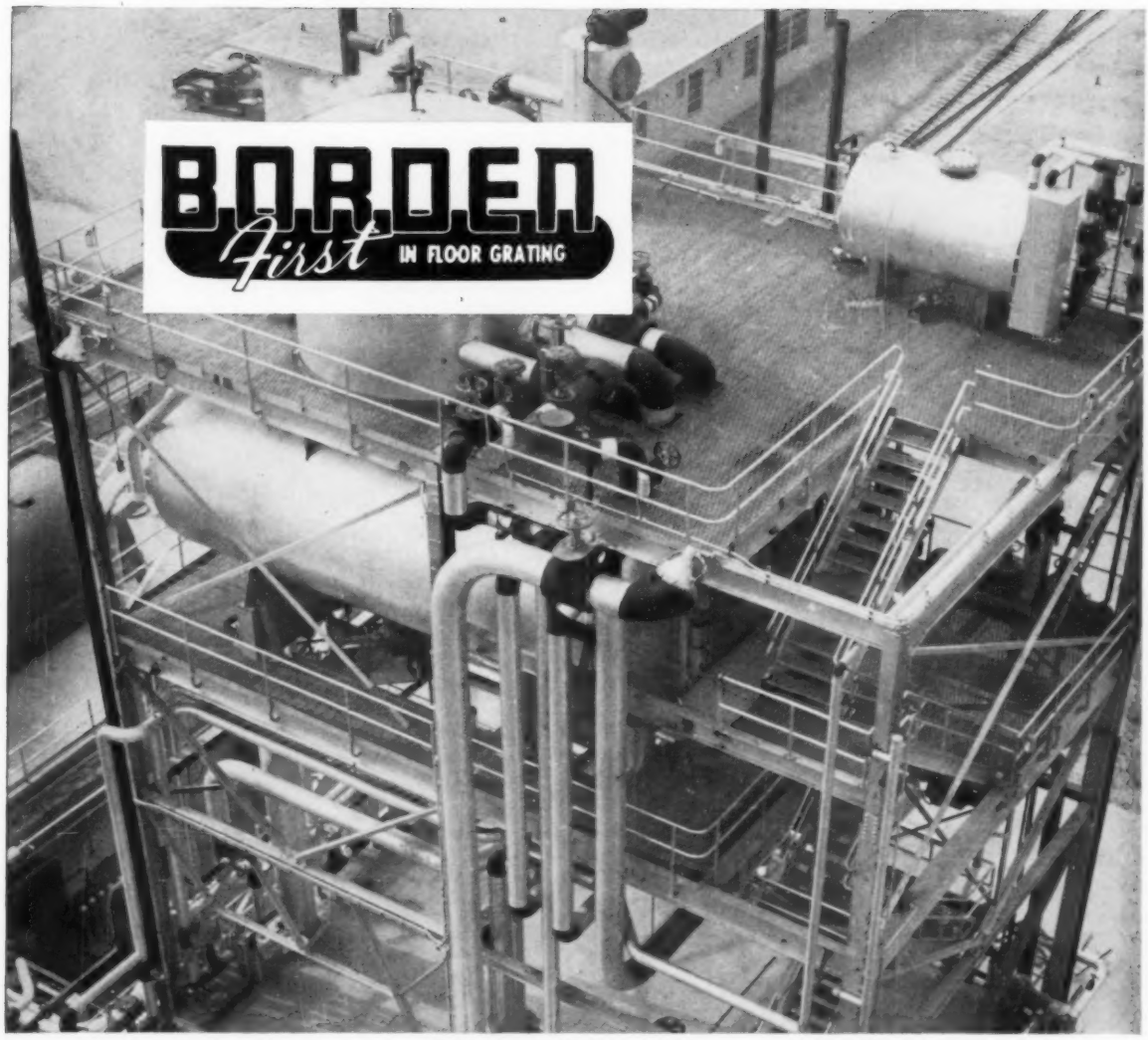


Troweled-on Plastic Flooring *Polyflex* is an all-plastic flooring, supplied as a ready-mixed batch in gallon cans, which is troweled onto the floor like cement instead of being laid like tile or linoleum. It can be applied over concrete, wood, linoleum, hardboard, brick, flagstones and other solid surfaces and can also be used on shelves, window sills, etc. Available in a variety of solid colors and also in veined or marbleized mixes, it is troweled to a thickness of 1/32 to 1/16 in. and produces a solid, one-piece floor covering which is said to be extremely durable and resistant to grease, fats, oils, gasoline, detergents, etc. It hardens in 24 hr or less. The illustration above shows a kitchen floor finished with a multi-colored, veined *Polyflex* covering. Manufactured by Surfex Flooring Co. in England, it is distributed here by *Lud Lundin, P.O. Box 250, El Paso, Tex.*



Salvajector Food Grinder. This new addition to the line of *Waste-X-It* food grinders is a combination unit that scrapes tableware, pre-washes it and disposes of food waste in a single operation. Said to be easier to install and maintain, Model HK, a 1½-hp grinder, is designed to handle such food waste as fish heads, fowl entrails, corn cobs, paper milk containers and bones. It has a 6⅜-in. diameter feed chute and can be converted for use solely as a food grinder during preparation periods when large quantities of food waste accumulate. *The Salvajor Co., 118 Southwest Blvd., Kansas City, Mo.*

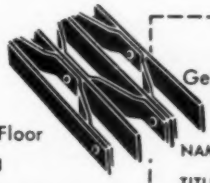
(More Products on page 252)



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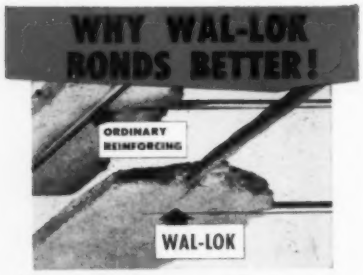
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When a mason uses reinforcing in a masonry wall, he lays the reinforcing on the last course like this  With ordinary reinforcing, all the wires are butt-welded  in one plane. This allows the side bars to  rest right on the blocks. Then the mason puts on his mortar. Steel doesn't float so, obviously, the mortar can't get under the  side bars. So the mortar is only bonded to the top and sides.  With Wal-Lok, the Tie Rods are welded across the  Side Bars. The mason puts Wal-Lok in the wall *with the Tie Rods DOWN*  This holds the  Side bars up away from the blocks, and the mortar completely surrounds each Side Bar  With Wal-Lok, the mortar grips all the way around! When you try to hang onto a rod, you don't hold it with your finger tips  You  hold it in your fist with your fingers wrapped all the way around. Why expect mortar to do something you can't do? All Wal-Lok is also deformed  and knurled  for a positive bond the full length. The value of any reinforcing depends *entirely* on its bond to the mortar.

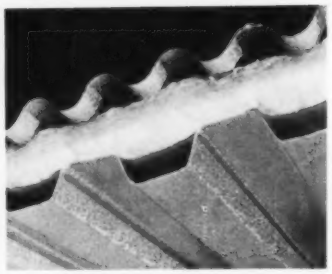
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1406 E. Mich. St., Adrian, Mich.

PRODUCT REPORTS



Box-ribbed, Embossed Aluminum Siding provides strength and structural efficiency as an architectural facing for industrial and commercial buildings. It can be used either as a single-sheet siding or as the exterior of a field-fabricated sandwich wall, as shown above. The sandwich wall can be constructed from sheets of either .024- or .032-in. standard industrial corrugated siding for the interior and the box-ribbed, embossed siding for the exterior, with a 1-in. layer of glass fiber insulation between them. The completed panel is only $3\frac{3}{8}$ in. thick and has a heat transmission factor of less than .16. The total weight is only a little over 1 psf. The ribbed, embossed siding is .032 gauge and comes in 6-in. increments from 5 through 12 ft in length and $34\frac{3}{8}$ in. in width. This provides a net coverage of 32 in. with a one-rib side lap. It weighs about 63 lb per hundred square feet. *Kaiser Aluminum & Chemical Sales, Inc., Oakland 12, Calif.*



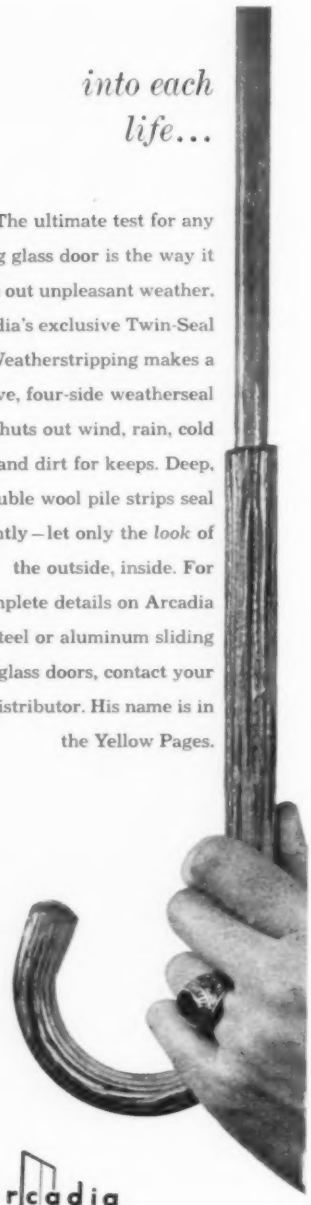
Code Call System

A coded call system permits instant communication, by means of audible signals, with personnel who are away from their desks and with employees who cannot be reached directly by telephone. Pressing the proper button on the switchboard sounds a numerical code call through the building, and the person being paged responds via the nearest telephone. The system can be installed with any combination of chimes, bells, horns and other signaling devices. *Wheelock Signals, Inc., 273 Branchport Ave., Long Branch, N. J.*

(More Products on page 257)

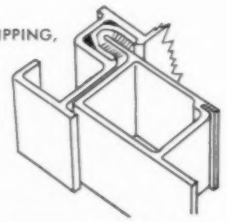
into each life...

The ultimate test for any sliding glass door is the way it locks out unpleasant weather. Arcadia's exclusive Twin-Seal Weatherstripping makes a positive, four-side weatherseal that shuts out wind, rain, cold and dirt for keeps. Deep, double wool pile strips seal tightly—let only the *look* of the outside, inside. For complete details on Arcadia steel or aluminum sliding glass doors, contact your distributor. His name is in the Yellow Pages.



arcadia

sliding glass doors



TWIN-SEAL WEATHERSTRIPPING, shown at latching jamb, positively seals out unpleasant weather.

ARCADIA METAL PRODUCTS • FULLERTON, CALIF.

Distributors in Canada, Puerto Rico & throughout the U.S. • Natl. member Producers' Council, Inc., & Natl. Assoc. of Home Builders.

Help build a better America . . . See an architect



Keep moisture in with VISQUEEN T. M. film for even, stronger cure

Profit-conscious builders everywhere are using tough VISQUEEN film as a curing blanket. Extra wide widths (to 32 ft.) cut curing labor costs drastically. Lightweight (1,000 sq. ft. of 4 mil VISQUEEN weighs less than 20 lbs.) and easily handled, VISQUEEN film is quickly placed over green cement without marring the surface. No need to wet down during cure. Important, too, VISQUEEN film can be used again and again.

Use VISQUEEN film under slabs, in foundations and as flashing around doors and windows. Perfect to cover finished millwork, sacked concrete and other materials subject to water damage.

Marked every foot for your convenience!

Important! VISQUEEN *film is all polyethylene, but not all polyethylene is* VISQUEEN. *Only* VISQUEEN *has the benefit of research and resources of the* VISKING *Corporation.*

look for this name on the selvage VisQueen® film... a product of

THE VISKING CORPORATION

Box CM4-1410, Plastics Division, Terre Haute, Ind.

World's largest producers of polyethylene sheeting and tubing.

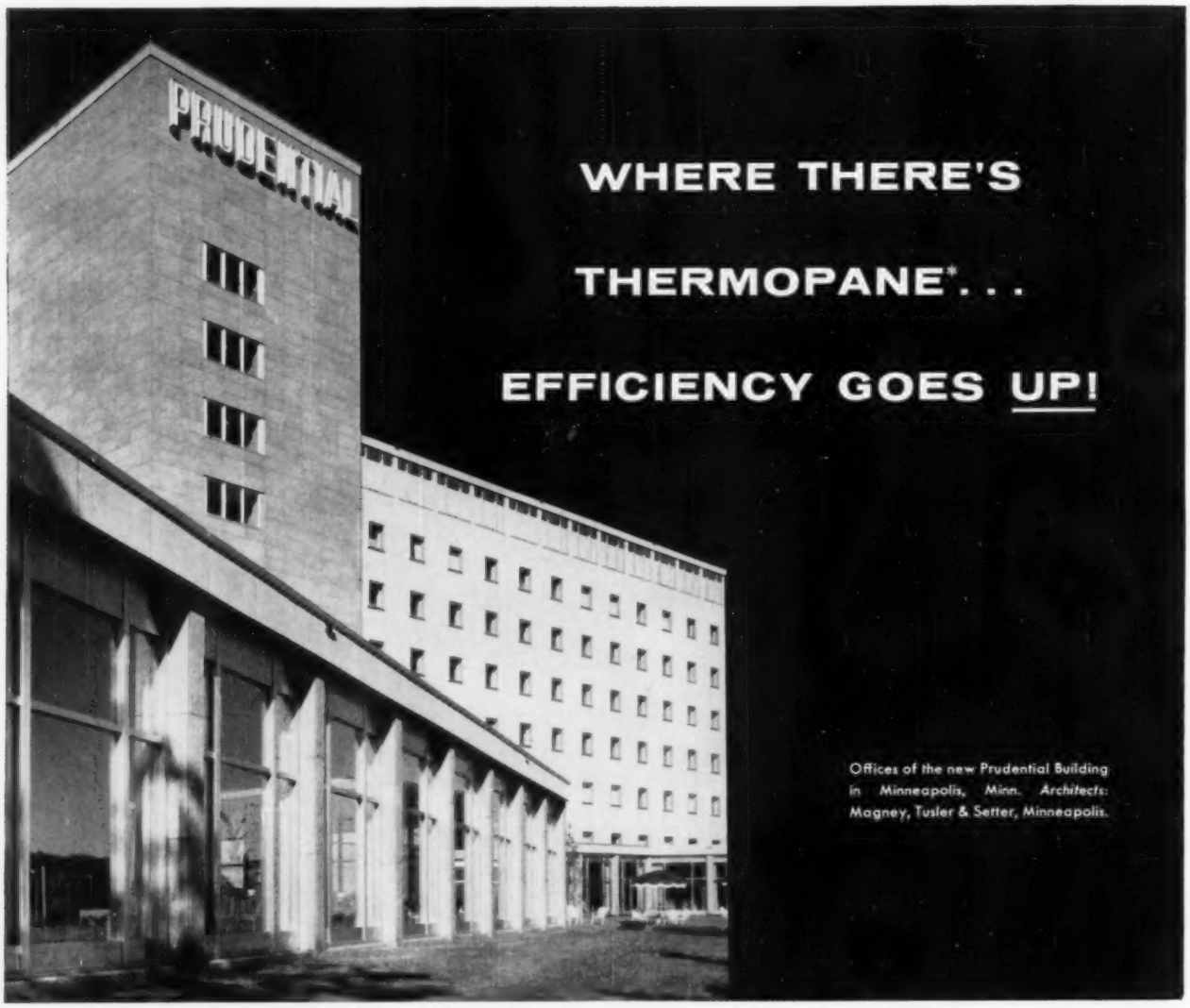
IN CANADA: **VISKING LIMITED**, LINDSAY, ONTARIO • IN ENGLAND: **BRITISH VISQUEEN LIMITED**, STEVENAGE

mail coupon for more details

The Visking Corporation, Box AR6-1410
Plastics Division, Terre Haute, Ind.

Name _____

Title _____



LOF GLASS

Thermopane
INSULATING GLASS

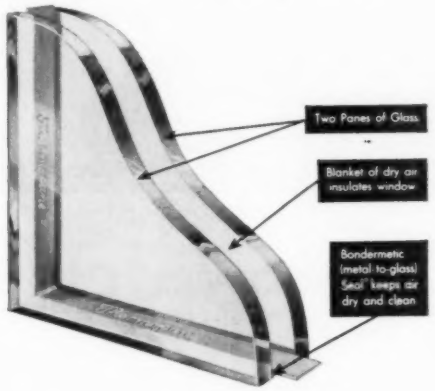
LIBBEY • OWENS • FORD... *a Great Name in Glass*

Architects and builders who have had a long and profitable experience with *Thermopane* insulating glass emphasize two major reasons why they specify it for office buildings:

Employe Benefits . . . In summer, *Thermopane* insulates against outside heat. In winter, office personnel enjoy extra comfort because drafts near windows are reduced . . . better health, since with *Thermopane* a higher humidity can be maintained. And the year 'round, *Thermopane* deadens outside noises to improve employe concentration.

Owner Benefits . . . In addition to better working conditions for maximum output, owners can calculate dollar savings because operating costs for heating and cooling units are reduced.

When your clients experience these comforts and economies, they'll thank you for specifying *Thermopane*. *®





Mile High Center Building in Denver, Colo. *Architects:* Webb & Knapp, New York, N.Y.



Offices of The Jewel Tea Co., Inc., Melrose Park, Ill. *Architects:* A. Epstein & Son, Chicago.

*Thermopane** FACTS

Much technical information is available to help the architect and engineer design for the most effective and most economical use of *Thermopane* insulating glass. It is all in our *Thermopane* Manual which will be sent on request. (See coupon below.)

The following brief data are excerpts from the manual:

ADVANTAGES OF THERMOPANE

1. Savings in fuel
2. Increased usable room space
3. Reduction of condensation
4. Reduced air-conditioning initial equipment needs and operating costs
5. Quieter interiors

INSULATING EFFICIENCY

Thermopane with ¼" air space—U = .65
Thermopane with ½" air space—U = .58
Single ¼" glazing—U = 1.15

KINDS OF GLASS

Thermopane is made with plate glass for maximum clarity, or with sheet glass when economy is main consideration. Units ½" thick have ¼" air space, units 1" thick have ½" air space. *Thermopane* can also be made with Heat Absorbing Glass, *Tuf-flex** tempered plate glass, or several types of Blue Ridge *Patterned Glass*.

STANDARD SIZES

More than 90 standard sizes are made to permit economy in use with most popular types of sash. The *Thermopane* Manual provides a list of sash types and standard sizes for them.

OTHER DATA IN THERMOPANE MANUAL

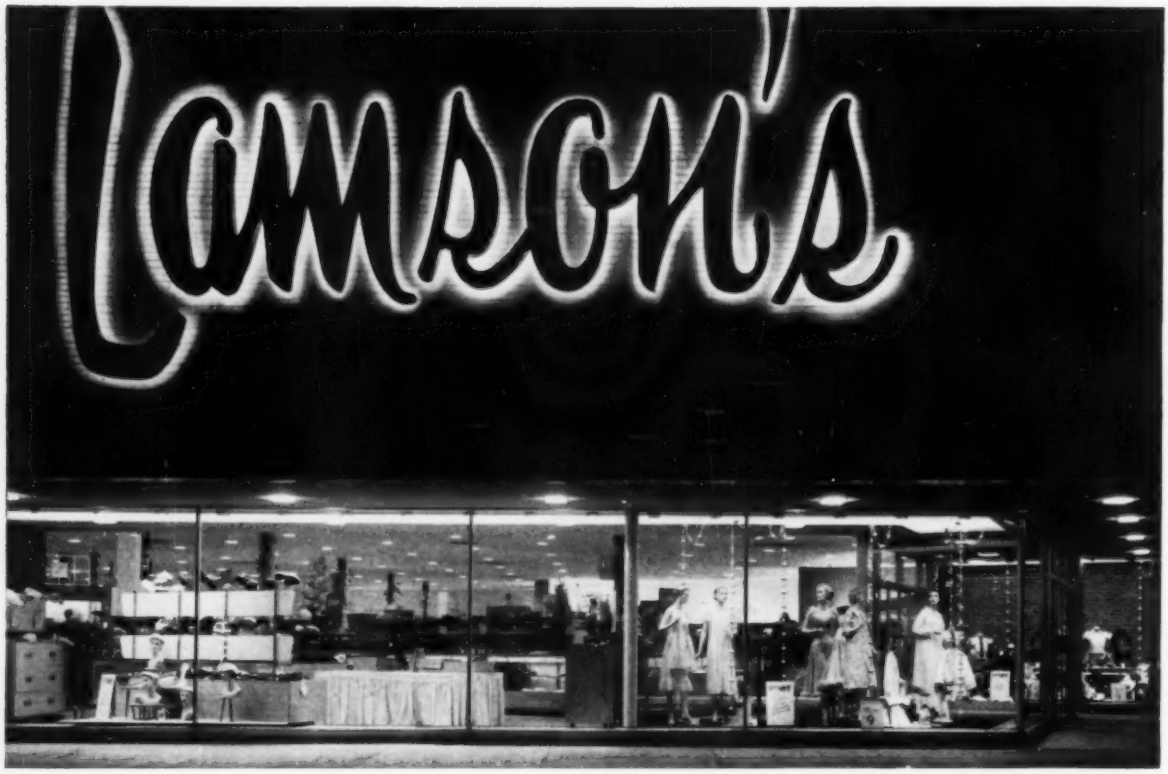
Heat Loss Data
Warm Side Surface Temperatures
Condensation Points
Sound Insulation
Light and Solar Radiation Transmittance
Reduction of Cooling Load
Strength of *Thermopane*
Wind Load
Weight Per Sq. Ft.
Glazing Instructions
Framing Details
Suggested Specifications

Thermopane is sold by local L·O·F Glass Distributors and Dealers (listed under "Glass" in the yellow pages of phone books). *®



Libbey-Owens-Ford Glass Co., Dept. 8566
608 Madison Ave., Toledo 3, Ohio
Please send me a copy of the Thermopane Manual.

Name _____
(Please Print)
Street _____
City _____ State _____



Lamson's newest suburban store in Toledo, Ohio. Architects: Weinberg & Teare, Cleveland.

not a wiggle in a window... looking in, looking out, looking at

Ever walk by a store (or a house) and see reflections wiggle in the windows? When glass is not distortion-free, it spoils the looks of the building and the things you see through the windows.

But see how well the glass speaks for the store shown above (and the merchandise inside). It's L·O·F *Parallel-O-Plate** Glass — the most distortion-free (the only *twin-ground*) plate glass made in America. Yet in most localities, it costs no more than ordinary plate glass.

So it *pays* to have *Parallel-O-Plate* Glass in your windows, storefronts, display cases and mirrors. It's better, any way you look at it — looking in, looking out or looking at.

Read the column at the right for important facts on *Parallel-O-Plate*.

*Ⓣ

LOF GLASS

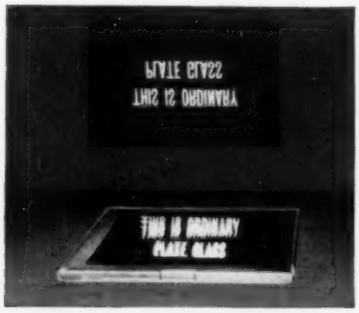
PARALLEL·O·PLATE GLASS

Finest plate glass made in America... only by **LIBBEY·OWENS·FORD**

a Great Name in Glass

PARALLEL·O·PLATE

FACTS





COMPARE the reflections of the upside-down signs in the mirror of conventional plate glass (top) and the mirror of *Parallel-O-Plate** (bottom).

Parallel-O-Plate Glass is more distortion-free than ordinary plate glass because its surfaces are more parallel.

This great degree of parallelism is the result of a special kind of grinding called *twin-grinding*.

The ordinary method is to cut off a section of glass, grind one side, turn it over and grind the other side.

In the *twin-grinding* process, the glass moves from the furnace through the new annealing lehr and into the *twin-grinding* process where both sides are ground simultaneously in a continuous ribbon 975 feet long. It's precision made all the way.

For further information, call your Libbey·Owens·Ford Distributor or Dealer (listed under "Glass" in the yellow pages). Or write Dept. 7566, Libbey·Owens·Ford Glass Company, 608 Madison Avenue, Toledo 3, Ohio.*®

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FORD

PRODUCT REPORTS

Radio-Intercommunication

Control Model RC-5 includes a Control-Master, four remote speakers and all necessary installation material for distributing radio programs to any or all remote parts of the house, for providing intercommunication between the master position and any or all speakers, and for monitoring any or all stations from any or all other stations for safety and protection. The system mounts flush in either plaster or plasterboard walls. Weatherproof speakers are available for outside installation. *Harmon-Kardon, Inc., 520 Main St., Westbury, L. I., N. Y.*



Steel Folding Closet Door

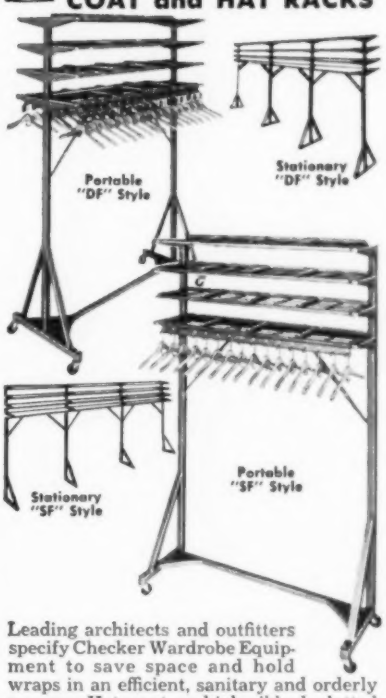
Berry Floataway folding steel doors open to their full width, providing full access to closets. Nylon pivot bearings and guides facilitate opening and closing of the doors. They are available in eggshell white or baked enamel natural birch grain finish, or can be painted or wallpapered. They fit finished openings 3, 4 or 5 ft wide and 6 ft 8¾ in. or 7 ft 11¼ in. high. *Steel Door Corp., 2400 East Lincoln Rd., Birmingham, Mich.*



Red Panic Bar

The standard panic bar for doors can now stand out with a bright red bar. An extruded plastic tube can be slipped over the standard rod and fastened at each end to provide a colorful, easily maintained, non-scratchable and non-combustible bar. The plastic tube is produced by *Anchor Plastics Co., Inc., 36-36 36th St., Long Island City 6, N. Y.* for use on panic bars produced by *Sargent & Greenleaf, Inc., Rochester 21, N. Y.* *(More Products on page 258)*

Checker®
COAT and HAT RACKS



Leading architects and outfitters specify Checker Wardrobe Equipment to save space and hold wraps in an efficient, sanitary and orderly manner. Hats rest on high ribbed, slotted shelves. Spaced hangers keep coats apart, open to light and air, visible and instantly available. SF Style units accommodate 4 or 5 persons per foot. DF style units accommodate 8 or 10. 3'2", 4'2" and 5'2" long "portable" units go wherever needed on large casters. "Stationary" units come on glides and can be anchored to floor. "WM" Style racks mount directly on any wall. All Checker racks are correctly engineered to interlock on left or right and to stand up under a full load. They will not tip over, sag, sway, creak or wobble. Built for lifetime service of strongly welded heavy gauge steel and square tubing and beautifully finished in modern baked on colors. They are vermin-proof and fireproof.

Style WM wall RACKS



Exclusive Checker Features



1. Beautiful lucite numbers snap-on each hat space
2. Add-on shelves spring lock either to right or left
3. Tags now go on hanger hooks
4. Any Checker quickly converted from hanger to hook type or reverse

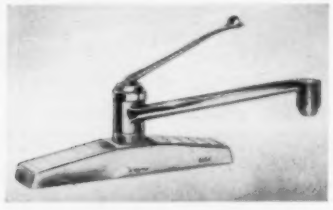
Write for Bulletin CK52

VOGEL-PETERSON CO.
1127 W. 37th Street • Chicago 9, Ill.

PRODUCT REPORTS



New Fluorescent Lamp. Said to have double the light output of present tubes of equal length, this newly developed lamp is called "Power-Groove" because it incorporates a series of lengthwise grooves along one side, making its cross section nearly U-shaped at these points. These grooves constrict the area within the bulb, yet permit maximum circumference, so that a huge gain in light output is achieved with no loss in efficiency, or units of light produced per watt consumed. The scientific principle involved is to diminish the internal loss of energy before it can be turned into visible light. This loss is caused largely by absorption in the mercury vapor within the lamp. Because of the grooves, the radiation has less distance to travel, and so more of it survives to activate the phosphor and create visible light. The "rapid start" principle is being used in the lamps, so that they will be essentially instant starting and will have ballast equipment of minimum size and cost. The lamp is 2⅛ in. in diameter and is rated at about 200 watts. The basic length is 8 ft, but 4-ft lamps will be available to fill in where necessary. The Power-Groove is expected to be of particular advantage in lighting high-bay factories, coves in stores, outdoor floodlighting, signs and street lighting. *General Electric Co., Lamp Div., Nela Park, Cleveland 12, Ohio.*

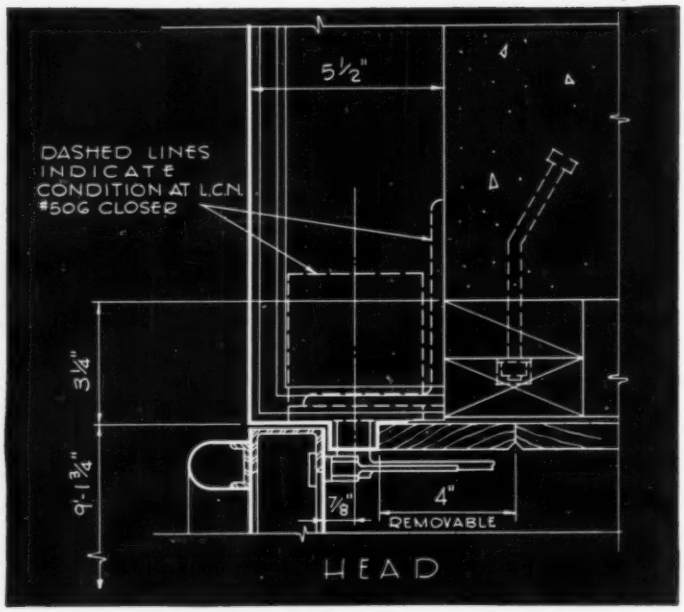


Single Lever Mixing Faucet

This faucet, operated with only a fingertip touch, starts water flow and adjusts temperature in a single sweep. Moved horizontally it blends water temperature. Moved vertically it starts or stops water flow. Factory-assembled and exterior-chromed, the unit has a self-cleaning blending valve. *The Alamark Co., Sharonville, Ohio.*

Plastic Moisture-Vapor Barriers are being produced in two new products by Wasco: *Wascofilm* is a polyethylene film, suitable for light and heavy construction, which can be used under concrete slabs, around foundations and over sub-flooring. Available in thicknesses of 0.002, 0.004 and 0.006 in. and a wide range of sizes, it will not, according to the manufacturer, embrittle with age, crack, chip or peel and is resistant to most chemicals. *Wascoseal* is a heavier vapor barrier, available in 10 and 20 gauge, which can be used for concealed flashing purposes, such as at spandrel beams, window heads and sills, under copings, at foundation cut-offs and other through-the-wall conditions. It is said to be resistant to acids, alkalies and caustics, flexible at temperatures of −20 F, tear- and puncture-resistant, free of pinholes and will not support combustion. It is made in widths of 12, 18, 24, 30, 36 and 48 in. and in rolls 72 ft long (20 gauge) and 144 ft long (10 gauge). *Wasco Products, Inc., Cambridge 38, Mass.*

(More Products on page 260)



CONSTRUCTION DETAILS

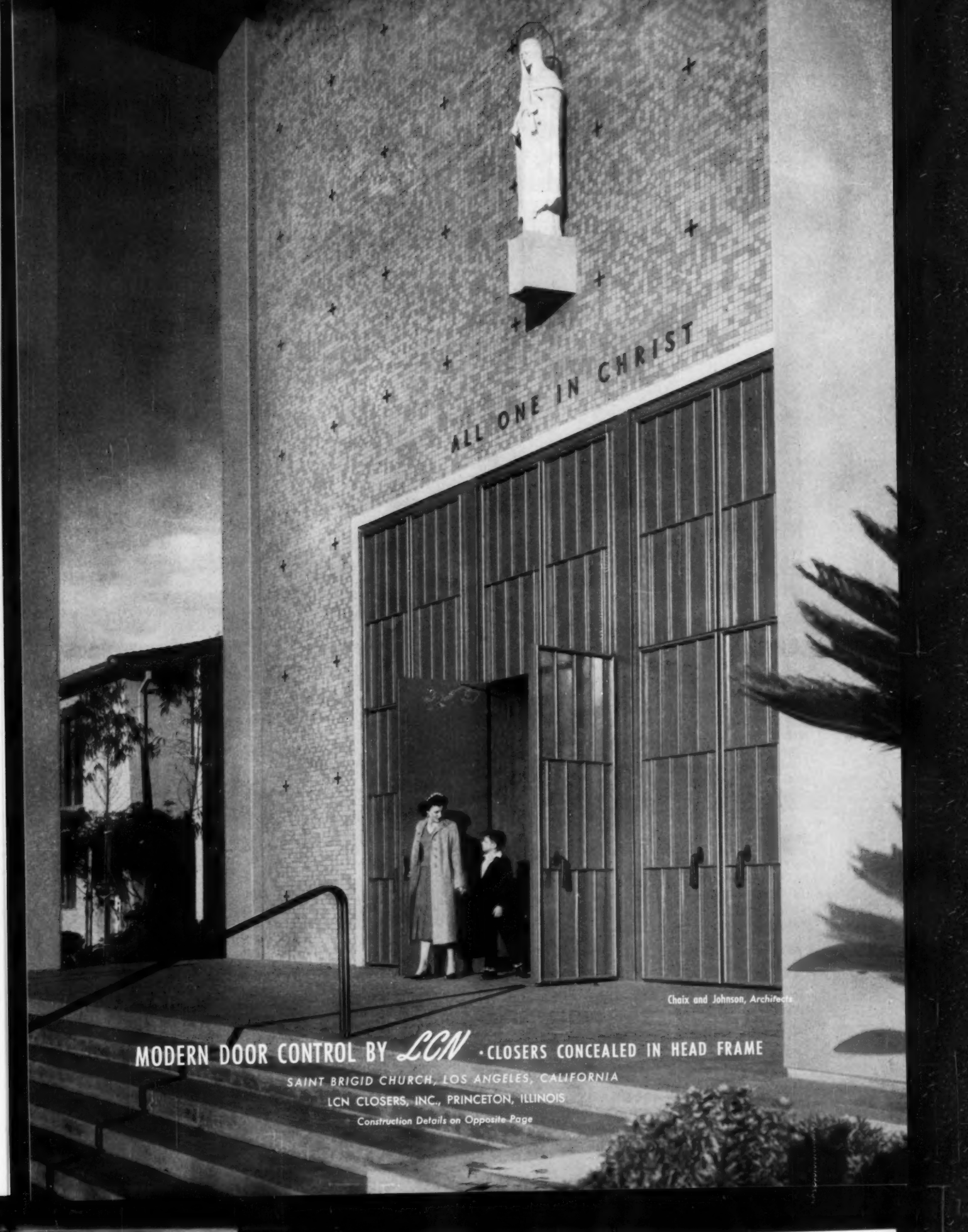
for LCN Overhead Concealed Door Closer Installation Shown on Opposite Page

The LCN Series 500 Closer's Main Points:

1. Efficient, full rack-and-pinion, two-speed control of the door
2. Mechanism entirely concealed; arm visible on inside of an out-swinging door
3. Hydraulic back-check prevents door's being thrown open violently to damage door, walls, etc.
4. Double lever arm provides maximum power to overcome wind and drafts
5. Arm may be hold-open type, 90° to 140° or 140° to 180°

Complete Catalog on Request—No Obligation
or See Sweet's 1956, Sec. 18e/L

LCN CLOSERS, INC., PRINCETON, ILLINOIS



Chaix and Johnson, Architects

MODERN DOOR CONTROL BY *LCN* · CLOSERS CONCEALED IN HEAD FRAME

SAINT BRIGID CHURCH, LOS ANGELES, CALIFORNIA

LCN CLOSERS, INC., PRINCETON, ILLINOIS

Construction Details on Opposite Page

AIR-BORNE DRUGS



Make Fast Time From the Pharmacy At This New Cleveland Hospital

At the new building of St. Alexis Hospital in Cleveland, Ohio, a 21-station Lamson Automatic Airtube® System speeds communication through the entire nine-story structure.

From the hospital Pharmacy, hundreds of Airtube trips are made per week with drugs and medicine. In the Central Supply department, 268 items – instruments, bandages, dressings and similar articles – make a typical Airtube day. Blood samples, diet orders, X-ray pictures – there's no end to the baggage you can send by Airtube Express. And of course carrying anything *written* – such as patients' records – is the Airtube's particular job.

Your hospital, too, will benefit from the speedy, reliable operation of a Lamson Automatic Airtube System. Just dial the number of the station to which the Lamson carrier is being sent and the carrier will automatically select the right way to it. Moderate initial expense and very low maintenance costs add to the attractiveness of Lamson installations. And less messenger work for orderlies, nurses and doctors means more time and energy devoted to patients' needs.

Valuable Information! Clip to Your Letterhead

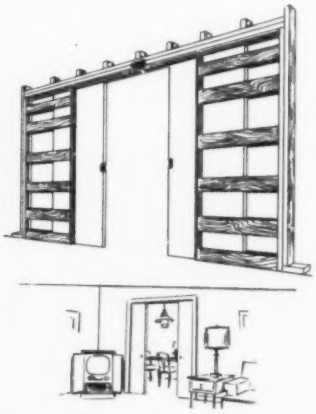
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LAMSON CORPORATION
4546 Lamson Street, Syracuse, New York
Plants in Syracuse and San Francisco
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☐ Automatic Airtube System
4546

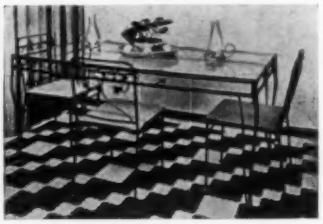
PRODUCT REPORTS

M-S-A Ultra-Aire Space Filter, for use in hospitals and research labs and in product control and processing industries where exceptionally clean air is required, features a non-combustible glass fiber web which is said to provide initial filtration efficiency of 99.97 per cent. It is said to assure penetration of less than 0.03 per cent by particles 0.3 micron in diameter. *Mine Safety Appliances Co., 201 No. Braddock Ave., Pittsburgh 8, Pa.*



Double Sliding Door Unit

A new packaged unit, No. 1200B, for double-pocket doors in room entrances and closets features two 1200 pocket door T-frames and a 1202 coupling set. The unit provides greater flexibility at room entrances and makes closet interiors more accessible. Produced by the Sterling Hardware Mfg. Co., which has changed its name to *John Sterling Corp., 2345 West Nelson St., Chicago 18, Ill.*

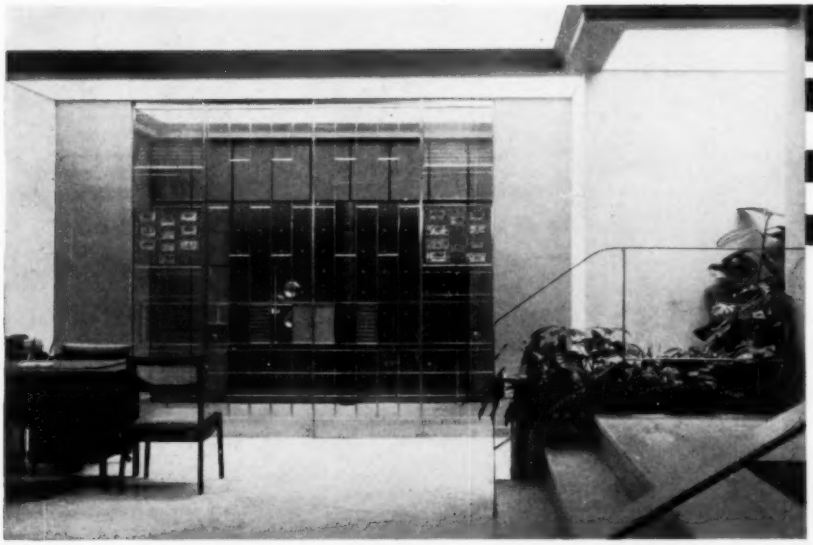


Contour Glazed Ceramic Tile can be set in intricate patterns to give floors and walls a variety of designs. By varying angles, intervals and colors of the tiles, countless combinations can be achieved. Each tile covers slightly less area than a 4¼-in. square tile. An idea sheet has been prepared which gives 16 basic installation designs for *Contour* tile. *Royal Tile Mfg. Co., Fort Worth, Tex.* *(More Products on page 266)*

BANK SPECIFIES... .. NEO-RAY LOUVRED CEILINGS

*for

HIGH LEVELS OF ILLUMINATION
Plus...
DESIRED ARCHITECTURAL EFFECTS...

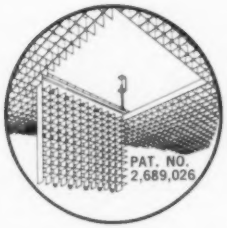


BANK OF GEORGIA
ATLANTA, GA.

Lighting Consultants:
Hugh Saussy Co., Atlanta, Ga.

Interior Designer:
Allen L. Ferry, Atlanta, Ga.

Electrical Contractor:
Whitehead Electric Co., Atlanta, Ga.





*1. In the section over the bank teller's cages it gave a luminous ceiling panel continuous over the work counters to provide high levels of illumination for work performed (80-100 Foot Candles). Further, in combination with the trough lighting placed at edge of soffet the desired perimeter effect was obtained in the banking room—architectually this perimeter effect is desirable to give great depth to the banking room.

2. In the section immediately in front of the vault the luminous panel strongly emphasizes the beautiful brass grill work and the planter to the right. Again high levels of light in the rear of the bank added depth and continued the perimeter effect mentioned above.

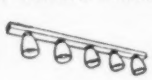
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See our catalog in Sweet's Architectural File for 1956 sec. 31a NE

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MANUFACTURERS OF LIGHTING FIXTURES INCLUDING:


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TRUSCON Series 138 double-hung is 15-year choice of Campagna



Montclair Apartments, St. Louis, Mo.
Rosario Candela and Paul Resnick, architects.
Campagna Construction Corp., owners and contractors.



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December 13, 1955

Truscon Steel Division
Republic Steel Corporation
Attention: Mr. William R. Hunt
40-46 Northern Boulevard
Long Island City 1, N. Y.

Dear Mr. Hunt:

This is in response to

Very truly yours,
Anthony Campagna
Anthony Campagna, President
Campagna Construction Corp.

AC mct

"FAIR PRICES • DURABILITY • WEATHER PROTECTION SMOOTH OPERATION • EASE OF MAINTENANCE • PAINTABILITY TRUSCON SERVICE"... preferred by big apartment builder.

Anthony Campagna, President of Campagna Construction Corporation of New York City, has planned, built and owned quality apartments for more than forty years. His lifework is now being ably carried forward by his sons Joseph and John, in New York and St. Louis. They attribute much of their success to careful attention to numerous details—details that contribute to creating distinctive buildings and satisfied tenants.

The Campagnas are convinced that proper selection of windows is a very important part of residential structures, especially those with modern, large glass areas. They write, "From time to time, we have considered various types of steel and aluminum windows but our choice in the past fifteen years has invariably been the Truscon Steel Double-Hung."

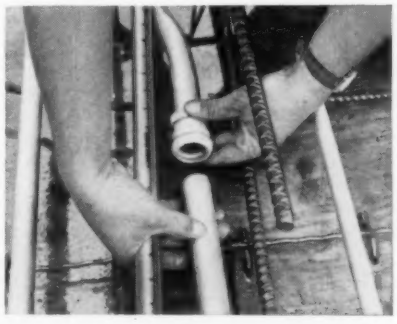
The Campagnas give these seven reasons for their preference: 1. A fair price. 2. Sturdiness of the frame, which is not subject to distortion or damage during construction. 3. Tight weather protection. 4. Smooth sash operation, with a definite feeling of solidity. 5. No maintenance problem. 6. Their preference for painting the windows to harmonize with exterior color styling. 7. Truscon service.

Take the Campagnas' tip. Investigate the Truscon Series 138—the largest selling steel double-hung window on the market. More details in Sweet's File; or return coupon below for your personal copy of specifications, details, types and sizes.



35 Park Avenue apartment, New York City. Sylvan Bien and Robert L. Bien, architects. Campagna Construction Corp., contractors.

Republic ELECTRUNITE® "Inch-Marked"® E.M.T. . . . the original lightweight rigid steel raceway. No lines to turn since every joint is a union. Exclusive features include "Inch-Marking" and Guide Line on the ½″, ¾″, 1″ and 1¼″ sizes; Inside Knurling for easier wire pulling on the ½″, ¾″ and 1″ sizes. Threadless, compression-type couplings and connectors provide concrete-tight joints. ELECTRUNITE E.M.T. is approved by the National Electrical Code for open, concealed and concrete construction. Write Republic.



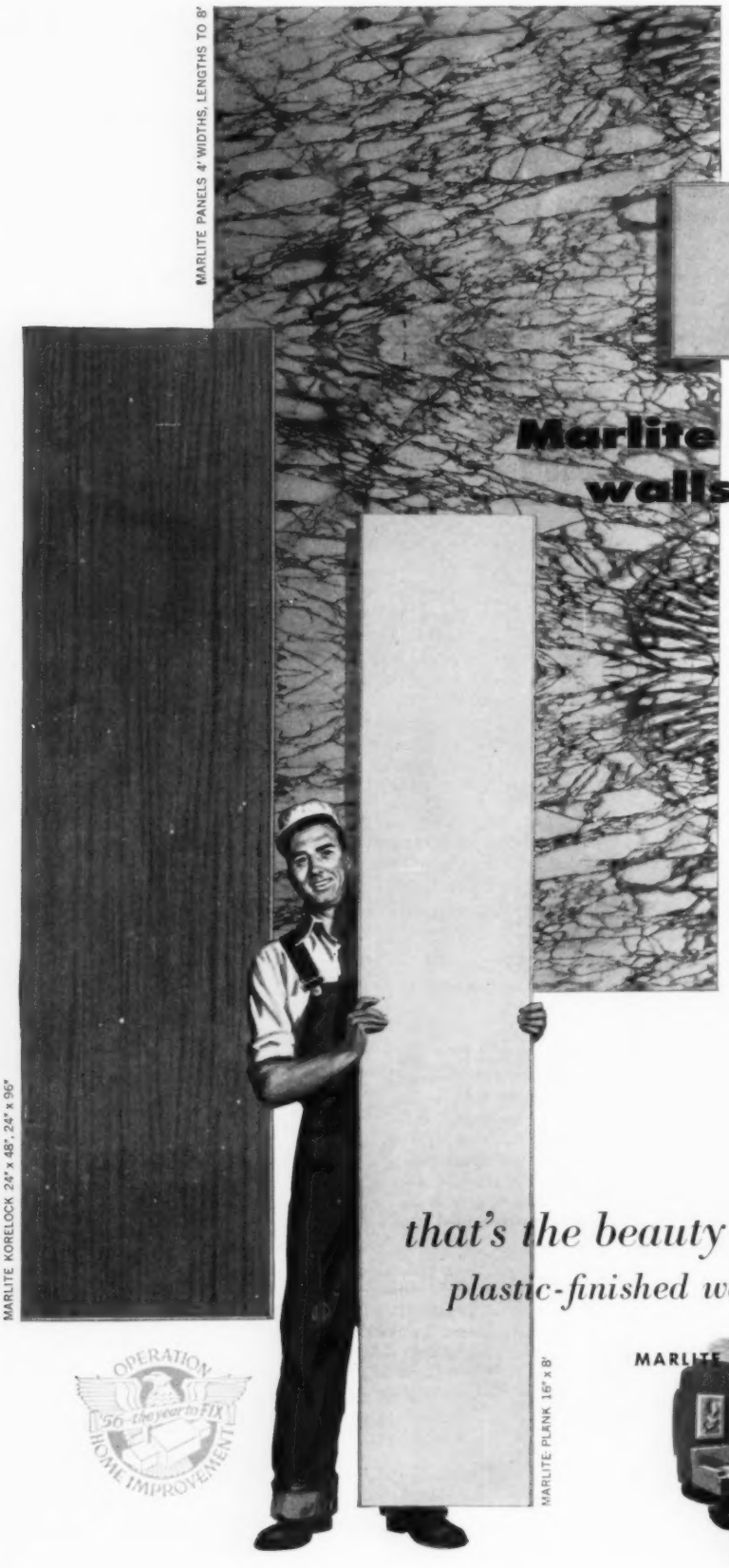
STEEL

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☐ Truscon® Series 138 Double-Hung Steel Windows
☐ Republic ELECTRUNITE E. M. T.

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Marlite Modular walls and ceilings

for greater economy, wide flexibility of design

Dimensioned for standard modular sizes, Marlite plastic-finish paneling fits right, looks right, goes up fast with minimum cost "in place." This means wider flexibility in the design of imaginative interiors . . . greater economies all along the line. And Marlite means lower maintenance, too. The baked melamine plastic finish wipes clean with a damp cloth; stays like new for years. For modern commercial, as well as residential interiors, plan on modular Marlite . . . available in Planks, Blocks, large Panels, and hollow-core Korelock in a wide range of distinctive Loewy colors, wood and marlite patterns. Consult your building materials dealer, refer to Sweet's File, or write Marlite Division of Masonite Corporation, Dept. 605 Dover, Ohio.

that's the beauty of **Marlite®**

plastic-finished wall and ceiling paneling

MARLITE DIVISION OF MASONITE® CORP.



Stainless steel adds strength, beauty, durability to new GM Technical Center

This striking stairway in the Research Laboratories Building of the new $100,000,000 General Motors' Technical Center "floats" on stainless steel. It's a typical design element of this outstanding project where stainless was chosen to combine utility with lasting beauty.

Design of the unique stairway required a metal for the tie rods, hardware and terminal plates that not only provided high strength and an attractive, harmonious appearance, but was easy to fabricate. Stainless steel was specified because it fulfilled all these requirements.

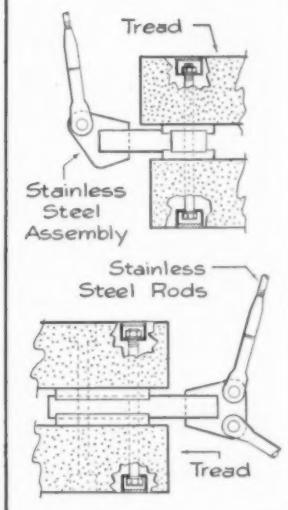
NOTABLE ARCHITECTURE

Typical of the many other applications of stainless steel throughout the Center are the distinctively handsome doorways flanking the stairs. In these, as in a suspended stairway in the Styling Section, elevator doors and cabs, stair railings, building entrances and trim, furniture and the water tower, lasting, notable architecture has been created with stainless.

Besides the added design freedom offered by stainless steel's unusual combination of properties, the architects specified stainless for its durability and maintenance-free service.

Consider what Armco Stainless Steel can do for you and *your* clients. It offers you the opportunity to incorporate strength and lasting beauty in your designs, whether they are for a multi-million dollar project or a small remodeling job.

For complete information on how Armco Stainless can be used effectively in all phases of architecture, just fill out and mail the coupon today.



CONNECTION DETAILS



Architects: **Eero Saarinen & Associates**
Architect-Engineers: **Smith, Hinchman & Grylls, Inc.**

ARMCO STEEL CORPORATION

1576 CURTIS STREET, MIDDLETOWN, OHIO

Shoffield Steel Division • Armco Drainage & Metal Products, Inc. • The Armco International Corporation

Armco Steel Corporation
1576 Curtis Street,
Middletown, Ohio

Send me information on the use of stainless steel in architecture. We are especially interested in stainless for:

NAME_____

FIRM_____

STREET_____

CITY_____ ZONE____ STATE_____



Terrazzo's versatility shown in new National Housing Center exhibit

To see Terrazzo in action, by all means visit the permanent display at the National Housing Center, Washington, D. C.

Commercial, school, and home installations are shown by means of brilliant color transparencies. Scale models of Terrazzo over radiant heating, Terrazzo on stairs, and conductive Terrazzo, are also on view. The exhibit cases themselves are made of black pre-cast Terrazzo slabs, on pre-cast Terrazzo bases. The N.T.M.A. seal and border are Terrazzo; between is Botticino marble mosaic. Brass and zinc divider strips separate various Terrazzo colors under the exhibit cases.

Made possible by N.T.M.A. and the Manufacturers' Division, the instructive exhibit will also distribute descriptive literature and installation data.

We invite you to visit this informative display on your next visit to Washington.

THE NATIONAL TERRAZZO AND MOSAIC ASSOCIATION, INC.

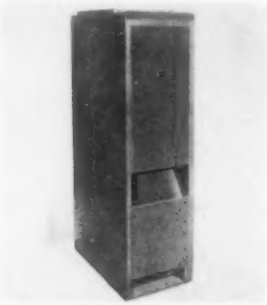
404 SHERATON BUILDING, 711 14th St. N.W., WASHINGTON 5, D. C.

PRODUCT REPORTS

Prefinished Hardwood Paneling Two new interior wall panels, made in V-grooved, random widths from fine birch and red gum woods, are prefinished and waxed, ready to install. The ¼-in.-thick hardwood is specially processed to accentuate the beauty of the natural grain. *Georgia-Pacific Plywood Co., 270 Park Ave., New York.*



Movable Roll-out Gym Seats Made in from three to ten tiers, they are practical in areas which sometimes have to be cleared of seating equipment. A jack frame assembly mounted on revolving casters is furnished with each self-supporting section. By lifting the two handles of the jack assembly, which can be rolled under the section when it is closed, the entire unit can be lifted off its own casters and onto the jack assembly. It can then be moved and changed in direction by two persons, and lowered again onto its own casters for further use. *Hussey Mfg. Co., Inc., North Berwick, Me.*



Counterflow Gas-fired Forced-air Furnace for central heating is completely automatic and comes pre-assembled and wired. It features oversize blowers which enable it to be applied to air conditioning; filters that can be replaced without removing the flue pipe or draft diverter; and an extra-heavy heating element. It is 60½ in. high and ranges from 29 to 30½ in. deep and from 16 to 28 in. wide for capacities from 75,000 to 150,000 Btu input. *Kresky Mfg. Co., Inc., Second & H Sts., Petaluma, Calif.* *(More Products on page 268)*



Mobile foods demonstration center, complete with storage and large mirror for easy viewing by class.



One of several types of sewing machine facilities. This particular one provides space for four students . . . two using machines.

Mutschler is the "Most"

Junior high to university, schools that install Mutschler departments get the *most advanced planning, most new features, most durable furniture and cabinetwork available.* Complete planning and consultation services cost you nothing extra when your architect specifies Mutschler. And, Mutschler departments lower costs because they are planned for maximum use by students with a minimum of supervision.

General view of an all-purpose homemaking department that includes foods laboratory kitchens, living area, grooming center, sewing area, fitting room, instruction area and completely adequate storage facilities.

FOR Foods Laboratory
Laundry Area
Arts and Crafts
Clothing Laboratory
Sewing Laboratory
Home Management Area
Child Care Area
General Storage Areas



Mutschler
SCHOOL FURNITURE



Typical kitchen in foods laboratory. Note that it is planned with the atmosphere and all the conveniences of a modern home kitchen.

SEND COUPON FOR INFORMATION

If you have a building or remodeling project, call in a Mutschler homemaking department specialist. Let him prove to your satisfaction that you get more for your money with Mutschler!

MUTSCHLER BROTHERS COMPANY
Dept. 6756-I, Nappanee, Indiana

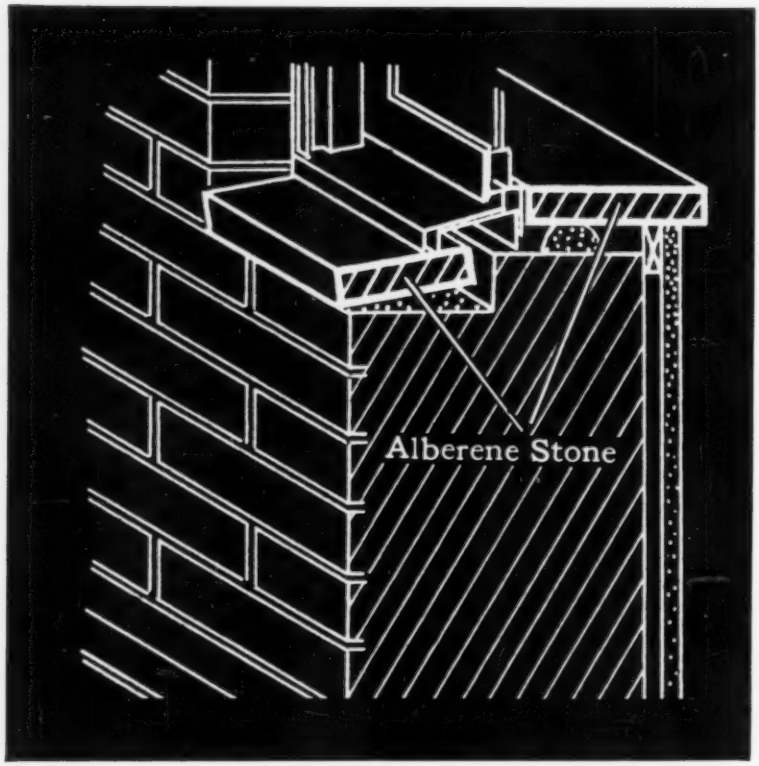
Please send further particulars about your school homemaking services and the name of our nearest Mutschler consultant.

NAME_____

SCHOOL_____

ADDRESS_____

CITY, STATE_____



Let's talk "SILLS and STOOLS"

—that are both durable and attractive.

Alberene Stone—*the natural silicate stone*—is weatherproof. Its low absorbency prevents spalling and splitting in freezing temperatures. Its all-silicate mineral components resist chemical attack, staining and loss of surface polish. It requires no maintenance.

Alberene Stone is supplied in two grades: *Regular grade* is medium hard, durable and economical. It has high chemical, weather resistance. And a pleasing bluish gray color. *Serpentine grade* is very hard with even higher resistance and durability. It takes a high hone finish that is bluish black; also a polished finish that is jet black. Since there is a substantial difference between the two grades, it is important that the proper grade be clearly stated in the specifications.

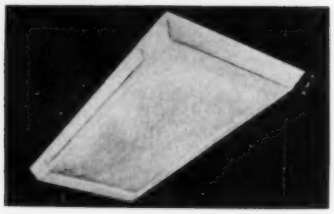
That's why Alberene Stone window stools have recently been shipped to many of the finest new hospitals in the country including: Providence Hospital, Washington, D. C.; Baptist Memorial Hospital, Memphis, Tenn.; Coney Island Hospital, New York; and the Grady Hospital, Atlanta, Ga.

For information and technical assistance, address: Alberene Stone Corporation, 419 Fourth Avenue, New York 16, N. Y.

ALBERENE STONE

provides LOW ABSORBENCY protection

PRODUCT REPORTS



Lighting Fixture

The *Commonwealth Thin Line* lighting fixture for individual or continuous flush mounting has an over-all depth of only 3 in. and 60-deg sloped sides. The Series 2800 units come in two- or four-lamp sizes with metal sides or plastic side panels. Ribbed plastic or Albalite glass panels are furnished. *Holdenline Co., 2301 Scranton Rd., Cleveland 13.*



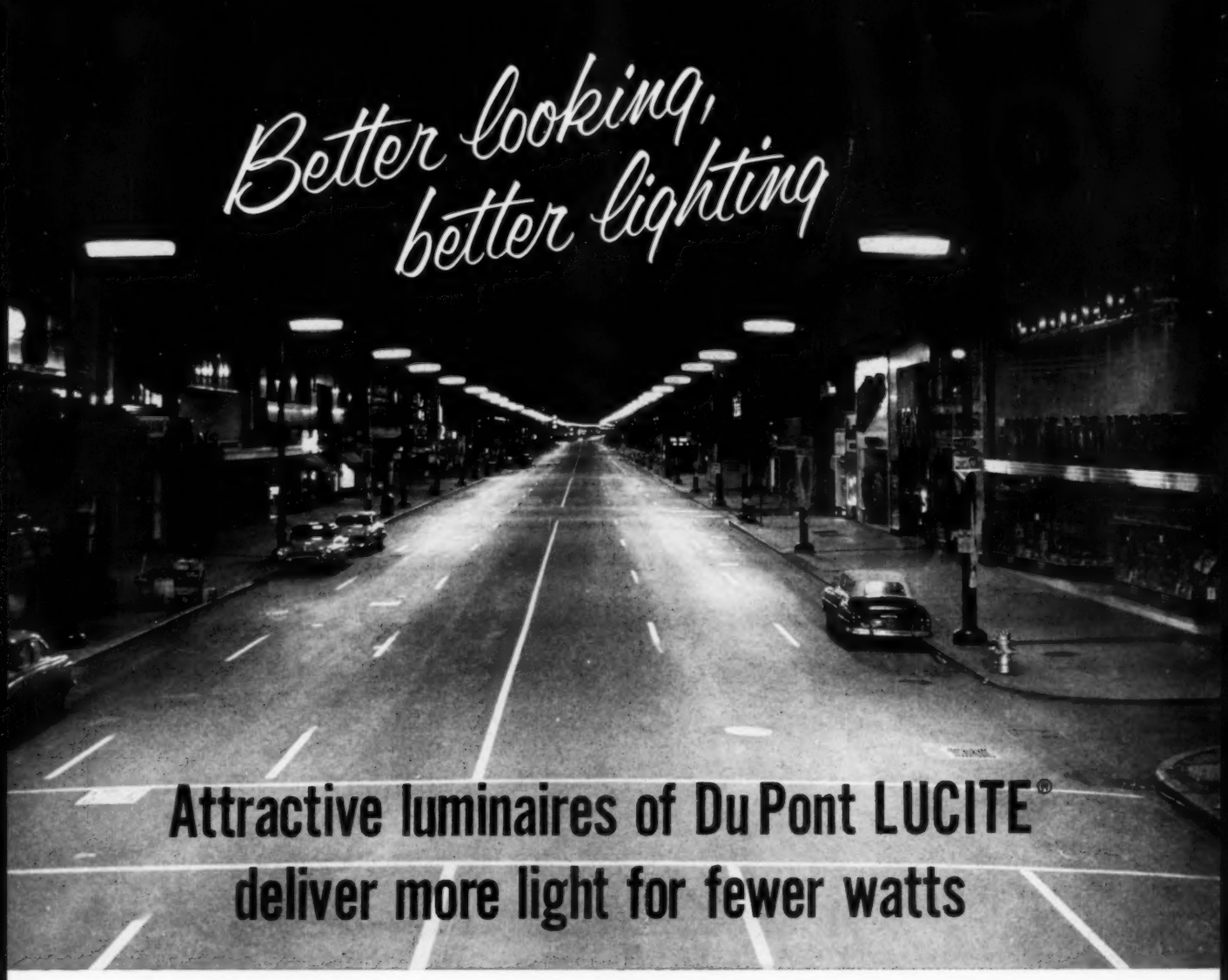
Prefab Entrance Canopies

Markay canopies combine structural aluminum extrusions with glass fiber panels to provide a non-rusting canopy which is said to meet rigid building code requirements. Designed to withstand maximum snow loads and wind pressure, the units are recommended for retail establishments because the passage of light through the translucent panels permits maximum use of window display space. *Stelzer Moldings, 4918 Keller St., South Bend, Ind.*



Trade-marked Door. A wood dowel containing the "Mengel-Man" symbol, as shown in the illustration above, will be inserted into the stile of every Mengel door from now on as a trade-mark to "assure good quality." *The Mengel Co., Louisville, Ky.*

(Continued on page 272)



Attractive luminaires of Du Pont LUCITE® deliver more light for fewer watts

These modern luminaires, utilizing LUCITE acrylic resin extruded by Southern Plastics Corporation, Columbia, South Carolina, are bringing more effective lighting to Euclid Avenue in downtown Cleveland . . . and doing so at reduced operating expense.

Fixtures formerly used on Euclid Avenue had two 1,000-watt lamps, dispensing 40,000 lumens. However, because there was a 50 per cent wastage, light on the street was only .7 foot-candles.

With the new luminaires, supplied by Westinghouse Electric Corporation, Cleveland, Ohio, the bulk of the 21,400 lumens from four 100-watt fluorescent tubes is directed downward, giving 1.67 foot-candles of light on the street. The new luminaires at a calculated consumption of only 256,000 kilowatt-hours per year will give more than twice the street illumination of the old lamps, which required 1,024,000 kilowatt-hours per year.

The Euclid Avenue installation represents a total investment of $55,000. The saving effected from lower maintenance and reduced use of electrical energy will amount to about $5,000 annually.

Du Pont LUCITE offers long-lasting beauty, clarity and unique light-transmission properties in all types of modern lighting installations—modular light-diffusing panels, large-area lighting, lenses for troffer and pendant luminaires, side panels and protective elements for outdoor fixtures. For complete information without obligation on how you can profit by including Du Pont LUCITE in your lighting plans, send for the free booklet, "Better Lighting with Du Pont LUCITE". Write to E. I. du Pont de Nemours & Co. (Inc.), Polychemicals Department, Room 736, Wilmington 98, Delaware.



• This "Quality Controlled" label may be used only by qualified extruders of Du Pont LUCITE acrylic resin. It assures the lighting industry that the extruded material conforms to standards for low shrinkage and uniform caliper established by E. I. du Pont de Nemours & Co. (Inc.).

Quality Controlled

DU PONT

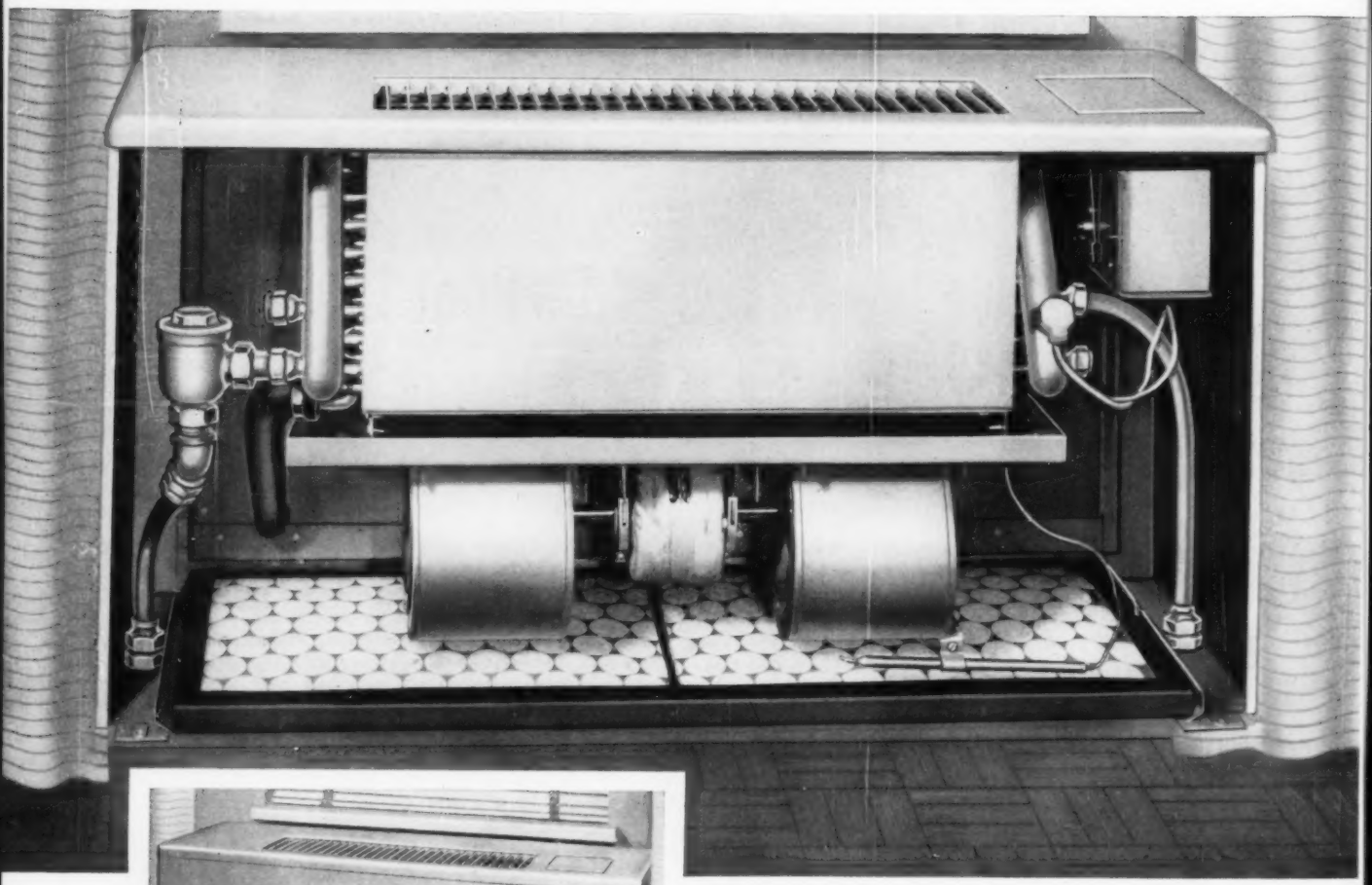
REG. U. S. PAT. OFF.

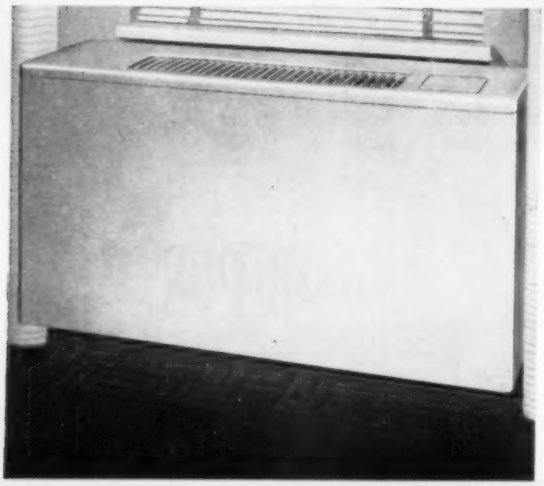
BETTER THINGS FOR BETTER LIVING
...THROUGH CHEMISTRY

AMERICAN-Standard products in the news

New Design Drinking Fountains

Self-Contained Remotaire

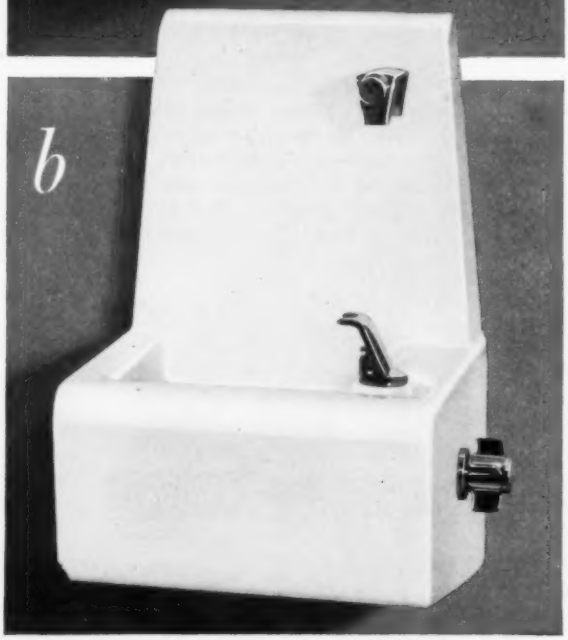


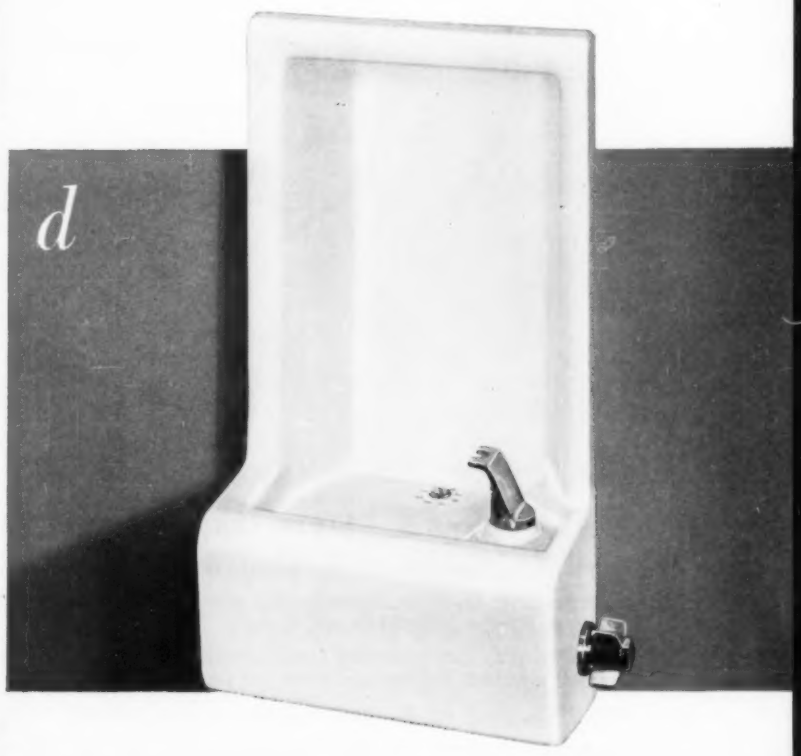


HEATING AND COOLING IN ONE SELF-CONTAINED UNIT. Here's the fast, inexpensive, convenient way to air condition hotels, offices and institutional buildings—especially existing structures. No central plant equipment is required. Installation can be made quickly in any room or on any floor without affecting the rest of the building. The new Self-Contained Remotaire heats, cools, ventilates, filters and exhausts. Each unit has a complete, built-in refrigeration circuit. Provision is made for connection to existing two-pipe steam or hot water heating systems. Mounted into and supported by the wall, the Self-Contained Remotaire projects less than 11" into the room. Cabinet dimensions are 21½" high and 40" wide.



NEW AMERICAN-STANDARD FOUNTAINS have a simplicity of design that fits perfectly with the modern architectural trend. And they are available in a wide variety of sizes, styles and colors. The examples shown here are (a) Sharon, (b) Calistoga, (c) Saratoga, and (d) Tioga. They'll not only add to the appearance of the buildings you plan, but also afford extra years of service for your clients. The one-piece bubbler—of non-tarnishing Chromard—allows easy cleaning, and is designed to prevent squirting or direct contact with the nozzle. The Nu-Re-Nu valve assures dependable operation.







FOR MORE INFORMATION about American-Standard plumbing and heating-cooling products, write to AMERICAN-STANDARD PLUMBING AND HEATING DIVISION, 40 West 40th St., New York 18, N.Y.

AMERICAN-Standard

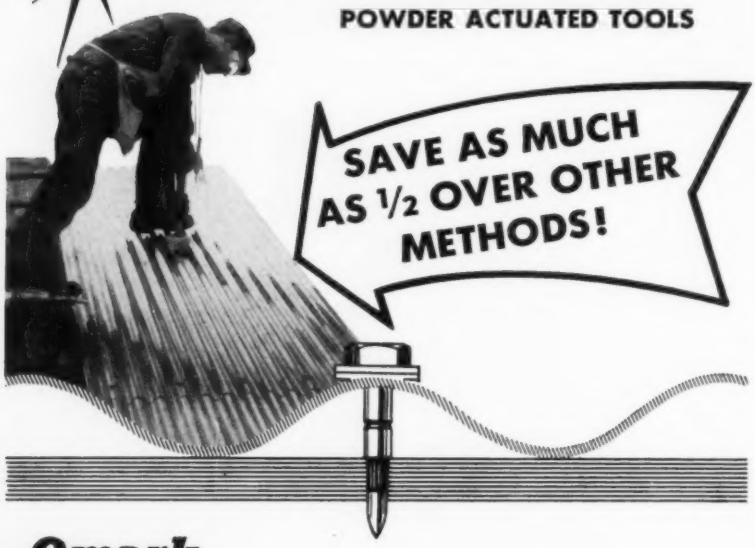
NOW, FOR FIRST TIME . . . INSTALL

CORRUGATED ALUMINUM

WITH

Omark– DRIVE-IT®

POWDER ACTUATED TOOLS



Omark DRIVE-IT® Gives These Advantages:

- **SPEED.** Cuts installation time as much as one-half over other methods.
- **STRENGTH.** Stronger, longer lasting, watertight, wind resistant, corrosion proof fastening.
- **SIMPLICITY.** Easy operating *Omark DRIVE-IT* tools are portable, self powered, lightweight. Sales and service nationwide.
- **UTILITY.** Roof can be removed for renovations without tearing.

Corrugated aluminum on steel structures is installed quicker, easier with *Omark DRIVE-IT* powder actuated fastening method. Newly developed special drivepins and insulated cap nut prevent electrolytic corrosion.

It's this simple: Lay out roofing or siding on steel framing, drive special drivepin through aluminum into the steel; place insulating waterproof washer and cap nut on the drivepin. Actual job tests prove time and cost savings up to one-half over other methods.

See Your Dealer for Demonstration or Mail Coupon for More Information

OMARK INDUSTRIES (Formerly POWDER POWER TOOL CO.)
5001 S. E. Johnson Creek Blvd., Portland 6, Oregon
I want more information on fastening corrugated aluminum with Omark DRIVE-IT tools.

Name_____

Address_____

City_____

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Aluminum Projected Window

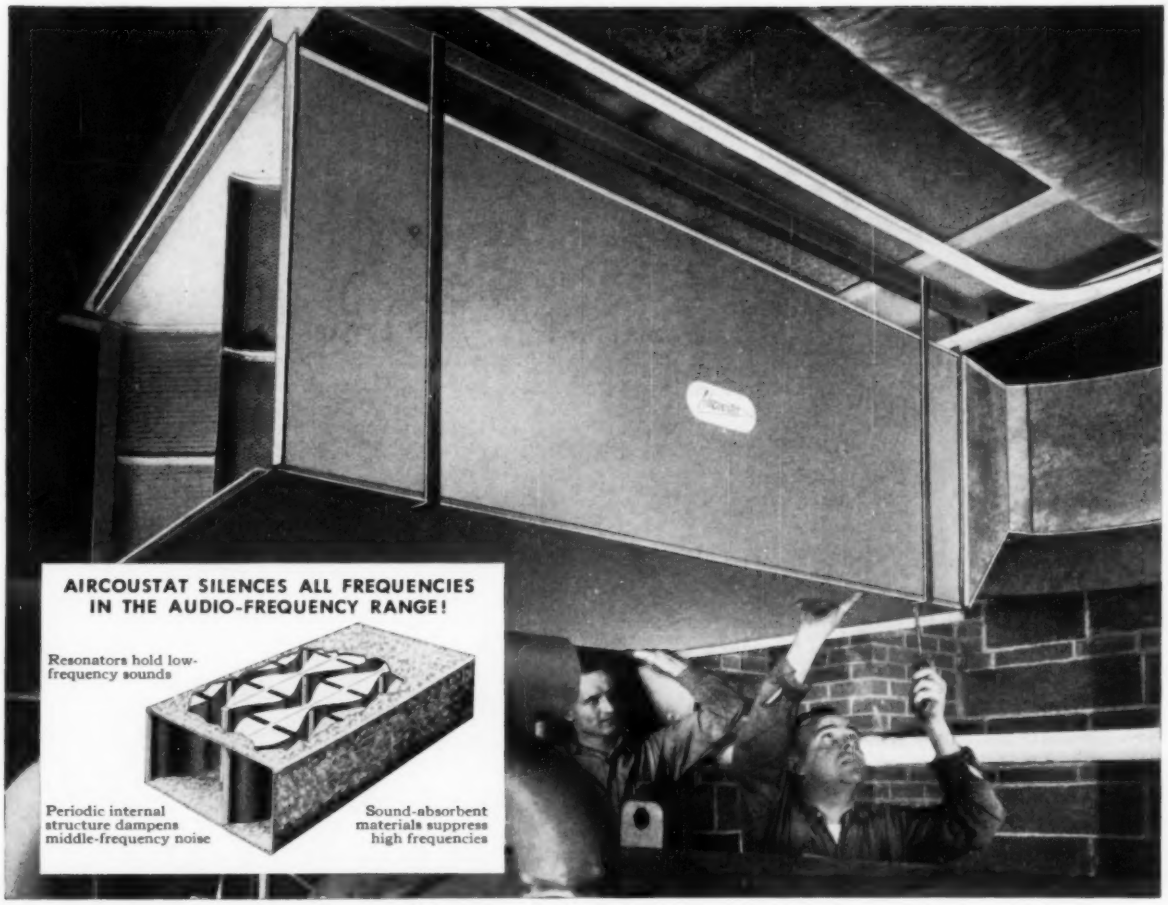
The manufacturer claims that this window is the only genuinely modular-sized projected window made and that it is the most rigidly constructed and tightest closing projected window produced. It can be mastic or bead glazed from either inside or outside. A check chart listing 17 important features which should be included in a good projected window is available from *Ludman Corp., North Miami, Fla.*



Whiteprinting Machines. The *Champion* and the *Spartan* are low-priced table whiteprinting machines which are said to expose and develop ammonia-type whiteprints up to 32 fpm. The *Champion* has automatic copy separation, making it a one-step feed machine. The *Spartan* requires manual copy separation, resulting in two-step feed operation. Both machines will reproduce any translucent copy such as engineering drawings, tracings, film, letters, etc. *The C. F. Pease Co., 3906 No. Rockwell St., Chicago 18.*

Flow-Mizer Evaporative Condensers, with capacities from 20 through 150 tons at 75 deg wet bulb, have an advanced-design blower section which has air outlets on a 45-deg angle to allow any direction of air discharge. The con-

(Continued on page 278)



AIRCOUSTAT* Sound Traps eliminate air conditioning noise at 50% less cost

Acoustical Performance Guaranteed. Easy to Install. Pre-Engineered — No Design or Layout Headaches.

Revolutionary AIRCOUSTAT Sound Traps require no special tools for installation . . . reduce your labor costs and lower your installation time. Units fit any size or shape of duct. If AIRCOUSTAT fits *geometrically*, it fits *acoustically*.

AIRCOUSTAT is the most efficient method of sound-deadening you can provide your customers. A 7-foot AIRCOUSTAT unit suppresses as much sound as 100 feet of ordinary duct lining. AIRCOUSTAT eliminates all frequencies in the entire audio-frequency range, silences entire systems or selected outlets. Flow resistance and pressure drop are lower. 4 series cover applications ranging from general offices to recording studios.

Discover how AIRCOUSTAT Sound Traps can save you time and money . . . create greater customer satisfaction.

**Koppers Trade Mark*

KOPPERS **INDUSTRIAL SOUND CONTROL**

Engineered* Products Sold with *Service

MAIL THIS COUPON TODAY

KOPPERS COMPANY, INC., Metal Products Div., Industrial Sound Control Dept., 6606 Scott St., Baltimore 3, Md.
Gentlemen: Please send me a free copy of your booklet on AIRCOUSTAT Sound Traps.

Name..... Title.....

Company.....

Address.....

City..... Zone..... State.....

Lever House Weatherproofed with THIOKOL-Based Glazing Compound



Due to the differing expansion rates of metal and glass, and the constant channeling of rainfall at the joints, the original glazing compound used in Lever House did not produce the desired effect.

Faced with a severe leakage problem, the Building Service Director of Lever House chose Tremco "Lasto-Meric", a compound based on "Thiokol" Liquid Polymer, as a suitable established replacement.

His choice was made on the basis of the performance of "Thiokol" Liquid Polymer—a solventless liquid that converts entirely to a rubber at room temperature and insures a tenacious, durable seal even after years of weathering. It maintains its resilience and adhesion at temperatures ranging from 250° above to 65° below zero.

Investigate "Thiokol"-based materials before you specify your glazing or caulking compound and save costly future replacement. Information on this case will be sent to you on request. WRITE: THIOKOL CHEMICAL CORPORATION, 784 North Clinton Avenue, Trenton 7, New Jersey.
IN CANADA: Naugatuck Chemicals Div., Dominion Rubber Company, Elmira, Ontario.

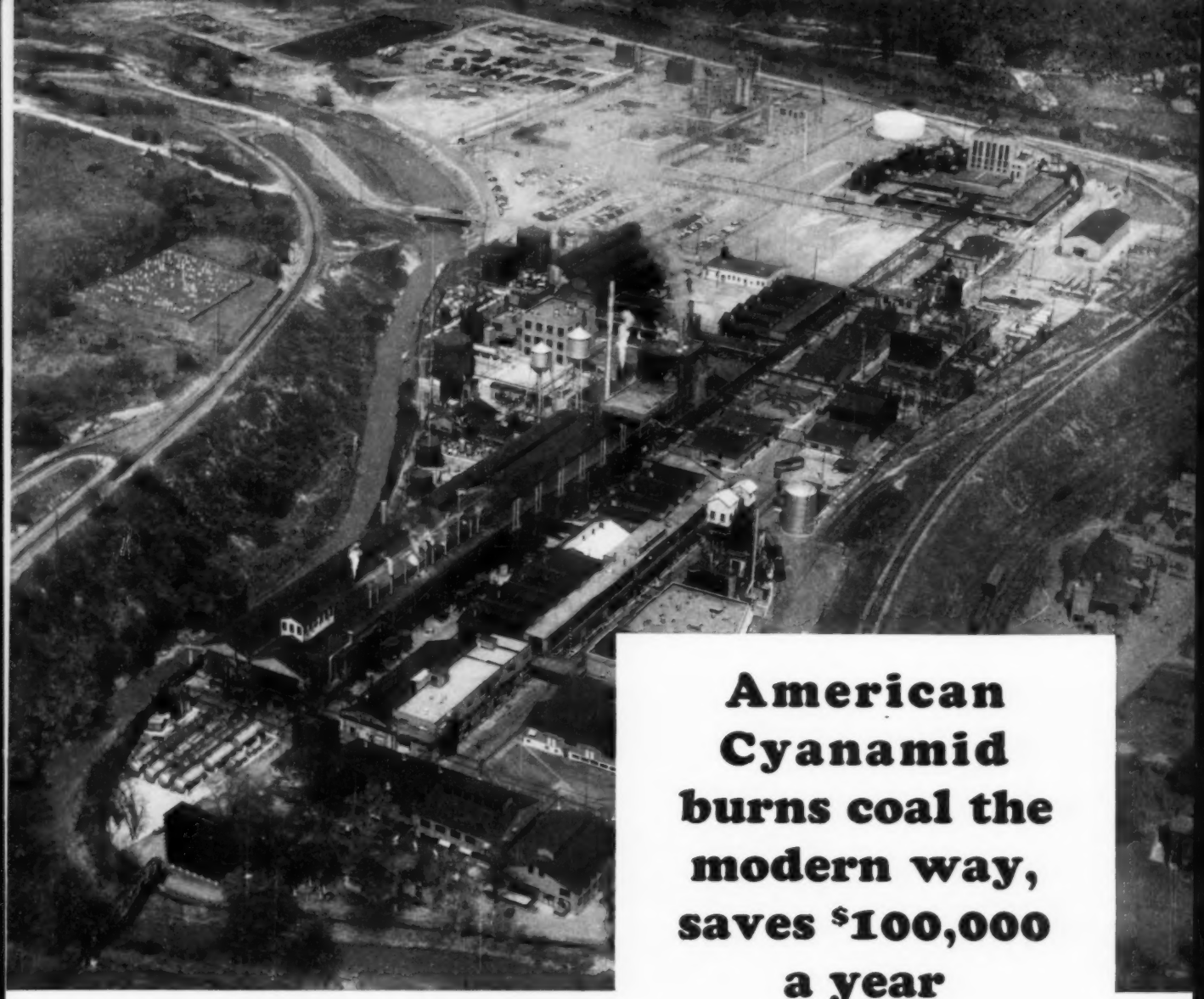
Thiokol Chemical Corporation manufactures "Thiokol" Liquid Polymer only as a raw material. The Tremco "Lasto-Meric" compound is a product of Tremco Mfg. Corp., Cleveland, Ohio. It was applied by the Grenadier Corp., New York City.



Thiokol®

PIONEER MANUFACTURERS OF SYNTHETIC RUBBER

Skilled mechanic of the Grenadier Corp., NYC, pressure calks "Lasto-Meric" into joints and then tools it into place with a spatula.



American Cyanamid burns coal the modern way, saves $100,000 a year

Increased production demanded additional steam in American Cyanamid's plant at Bridgeville, Pa. Management decided to analyze its power system with an eye to improving operating economy and efficiency.

The decision was *modernization,* with emphasis on more efficient distribution of steam, generated by burning pulverized coal. New steam traps were installed, waste steam was utilized, condensate was recovered, piping was simplified, a thorough system of maintenance and repair was instituted. The sound thinking behind this unusual program—unusual in that power system economies took place *after* steam generation—today rewards American Cyanamid with a savings of $100,000 a year!

For further information or additional case histories showing how other plants have saved money burning coal, write to the address below.

NATIONAL COAL ASSOCIATION
Southern Building • Washington 5, D. C.

Consult an engineering firm

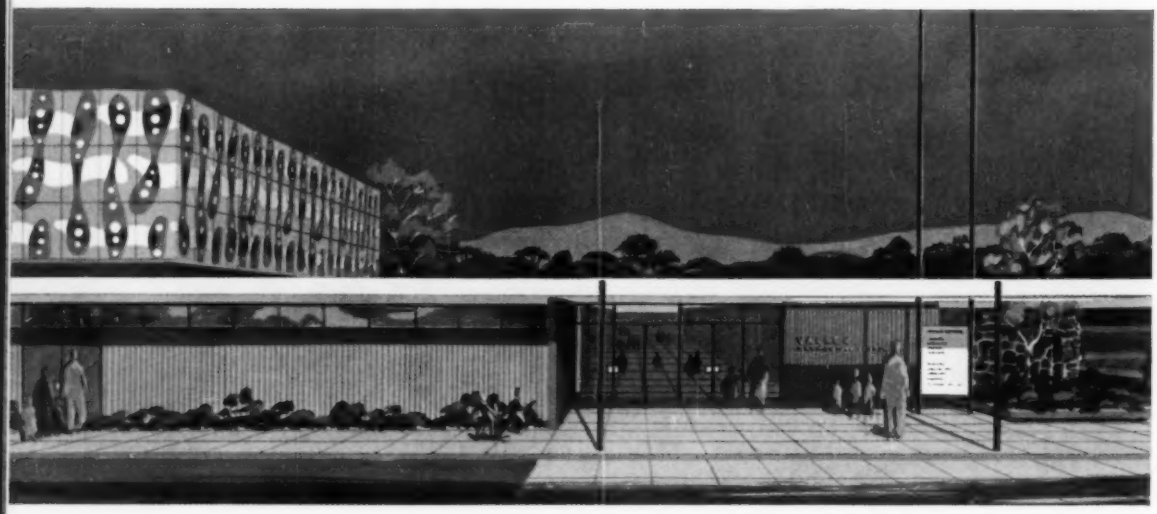
Designing and building hundreds of heating and power installations a year, qualified engineering firms can bring you the latest knowledge of fuel costs and equipment. If you are planning the construction of new heating or power facilities—or the remodeling of an existing installation—one of these concerns will work closely with your own engineering department to effect substantial savings not only in efficiency but in fuel economy over the years.

facts you should know about coal

In most industrial areas, bituminous coal is the lowest-cost fuel available • Up-to-date coal burning equipment can give you 10% to 40% more steam per dollar • Automatic coal and ash handling systems can cut your labor cost to a minimum. Coal is the safest fuel to store and use • No smoke or dust problems when coal is burned with modern equipment • Between America's vast coal reserves and mechanized coal production methods, you can count on coal being plentiful and its price remaining stable.



A schoolboy's school . . . as done by an architect



Elementary school at top of page designed by David DiZinno, Lyndhurst, O., age 7.

Elementary school at left, designed by H. David Sokoloff and Richard Blanchard, awarded Honorable Mention in the recent Porcelain Enamel Design Competition conducted by Architectural Forum and sponsored by Ferro Corp.

Porcelain enamel applications include exterior and interior wall panels, perforated acoustical ceiling panels, fascias, soffits, chalk boards.

Give a kid some crayons to draw a school and it won't be a monochrome. Nor somber. He'll choose lighthearted colors, draw a gay school.

Doesn't that also make sense when you're designing a school? Won't children be prouder of and happier in a cheery, colorful building?

That's easy to do with Porcelain enamel on steel or aluminum. Any colors you want, inside and out . . . permanent colors that do not fade, require no maintenance . . . glass-hard surfaces that are impervious to weather, cannot stain or scratch—wipe new with a swish of soap and water.

Think of color—*carefree* color—in the schools you design. Send today for illustrated, 22-page reprint of *Architectural Forum* article, "25 Prize Buildings for the Community." Shows interesting applications of Porcelain enamel in 25 award-winning elementary schools and community buildings.

Ferro fabricates no building materials, but as a leading supplier of raw materials, pioneers new products and end-uses for Porcelain enamel.

FERRO

FERRO CORPORATION

4150 East 56th Street • Cleveland 5, Ohio

Colorful, Carefree Porcelain Enamel



LIGHTING FOR ACCENT

. . . with new Downlights by miller!

To create atmosphere and mood, to attract attention, to accent form and color, to provide high light intensities where needed—Miller downlights will help you meet your most challenging lighting assignments. Just added to the popular Miller "Merchandise Line", these downlights are available in a wide variety of the most popular floods and spots, fixed and adjustable, with many fixture types, louvres and lenses. Miller's downlight catalogue belongs at your elbow when planning accent lighting—and many general lighting installations as well. *Send for it today!* Dept. ML-3.

Better Lighting for a Brighter America©

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SINCE 1844

THE MILLER COMPANY • GENERAL OFFICES: MERIDEN, CONN. • FACTORIES: UTICA, OHIO—MERIDEN, CONN. • IN CANADA: CURTIS LIGHTING OF CANADA LTD., TORONTO

Copyright 1956 The Miller Co., Meriden, Conn.

Look at the evidence!

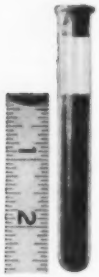
FERALUN®

SAFETY TREADS

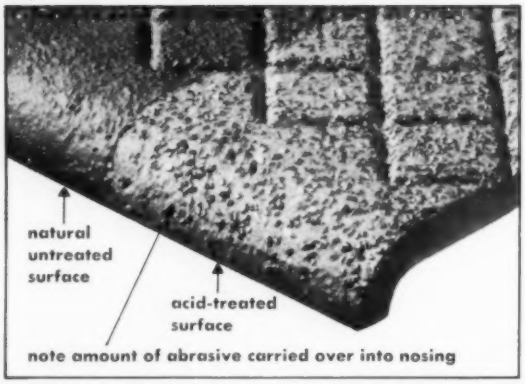
rated tops in two tests

"test-tube" test | acid-treated surface test

FERALUN SAFETY TREAD



This is the amount of abrasive in a 6" x 6" section of a Feralun Safety Tread.

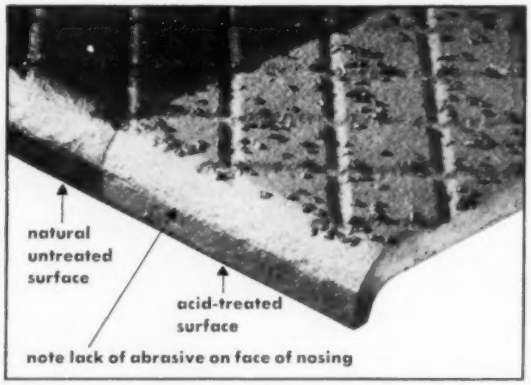


Here is an unretouched photograph of a Feralun tread taken after the paint was removed from a portion of it and acid used to eat away the metal base so as to fully expose the actual abrasive content. *Note the full and even distribution of abrasive carried right over into the nosing.*

COMPETITIVE SAFETY TREAD



This is the amount of abrasive in a 6" x 6" section of an "abrasive tread" offered as a substitute for Feralun.



Here is an unretouched photograph of an abrasive tread, purchased on the open market, of a type sometimes offered as an equal to Feralun. It has had identical treatment as Feralun tread above. *Compare the meager amount of abrasive and its spotty distribution with that of Feralun.*

Feralun is available as treads, thresholds, floor plates and elevator sills. Also in Bronzalun, Alumalun and Nicalun. See Sweet's Catalog 1956—13b/Am.

AB 131

AMERICAN ABRASIVE METALS CO., IRVINGTON 11, N. J.

struction permits economical installation of ducts, when required. Another new feature is an external sump which simplifies water treatment, servicing of sediment screen and draining of the unit. All models have all-steel construction and finish and are companion products to a new line of *Air-Mizer* cooling towers. *Acme Industries, Inc., Jackson, Mich.*

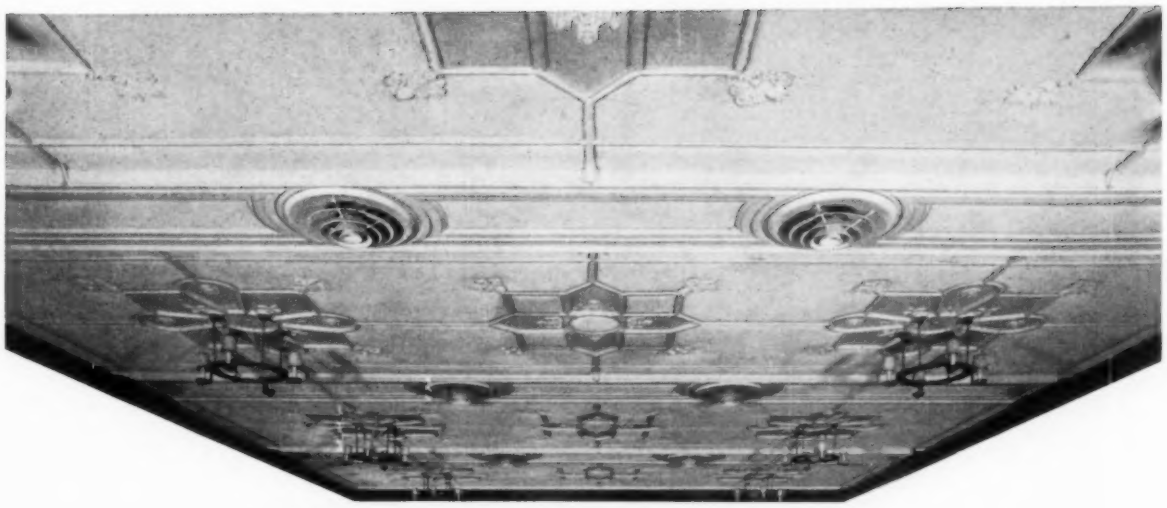


Parflex Extruded Caulking Compound, composed of 100 per cent solids to eliminate shrinkage, is said to afford excellent adhesive qualities for use with stone, concrete, marble, aluminum, steel, brick, porcelain enamel and glass. It is said also to remain resilient at temperatures as low as −30 F and to hold its form without running or sagging at 200 F. Just off-white in color, it is available in extruded widths up to 3 in. wide and ⅛ to ¾ in. thick. *The Parr Paint & Color Co., 18400 Syracuse Ave., Cleveland 10, Ohio.*



Rain-O-Matic Water Softener

Styled in white porcelain enamel to complement other appliances in the kitchen, utility room or laundry, the *Rain-O-Matic* is said to remove up to 168,000 grains of hardness per week. An electrically controlled 24-hr clock turns the unit on for a pre-set regenerating cycle, then shuts it off automatically. Salt tank holds 300 lb. Over-all dimensions of two standard models are 16 in. wide, 49½ in. high and 24 in. deep. *Globe American Corp., Merchandise Mart Plaza, Chicago 54, Ill.*

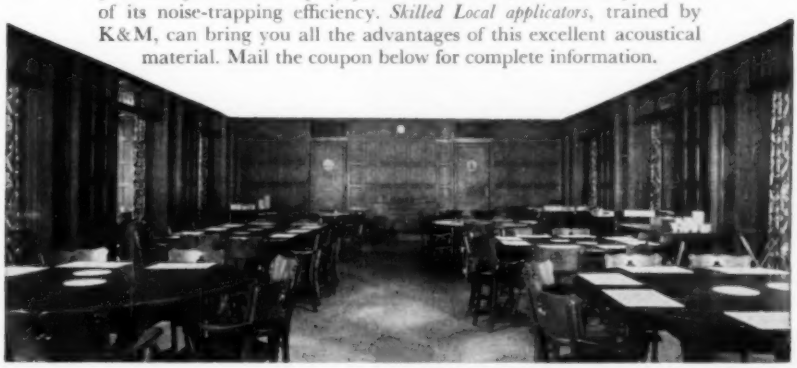


Sprayed "Limpet" Asbestos on the ceiling of the main dining room of the Engineers' Club in Dayton, Ohio, provides a quiet atmosphere for dining. This job, applied over ten years ago, also affords thermal insulation, fire protection, and prevents condensation. *Architects:* Schenck & Williams, Dayton, Ohio. *Applicator:* Myron Cornish Company, Incorporated, Dayton, Ohio.

Keeps the ceiling design, gets rid of noise... Sprayed "Limpet"® Asbestos

SOUND CONDITIONING A CEILING that has many curves and recesses presents a problem for most acoustical materials. However, Sprayed "Limpet" Asbestos, while doing an excellent job in controlling sound, retains every design feature of a ceiling. The evenly textured, seamless blanket of asbestos fibers adheres to any clean ceiling surface, regardless of its shape or composition. It does a superior job in deadening sound waves and in preventing the passage of heat.

Sprayed on, "Limpet" Asbestos needs no nailing, clipping, cutting. Special furring strips or other mechanical fastening devices are not required. There's no need to mask or disturb plaster mouldings. The natural color of the finished job blends with most color schemes—yet "Limpet" can be spray-painted if desired, with no impairment of its noise-trapping efficiency. *Skilled Local applicators*, trained by K&M, can bring you all the advantages of this excellent acoustical material. Mail the coupon below for complete information.



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☐ Send literature about Sprayed "Limpet" Asbestos.
☐ Have applicator see me.

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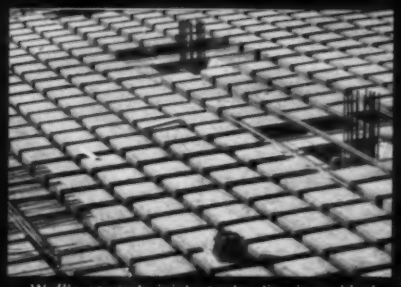
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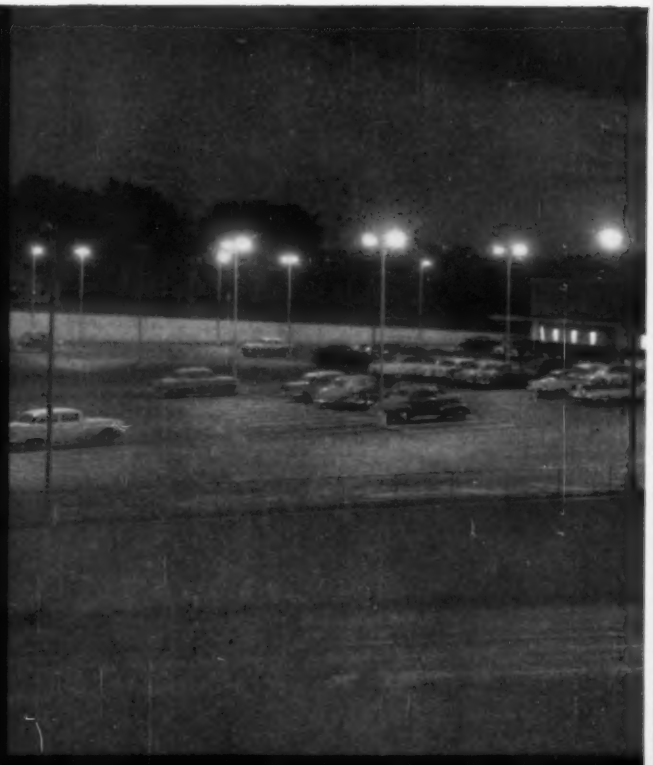
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Simple open wood centering supports Ceco-Meyer Flange-Type Steelforms for waffle construction used in The Center, Omaha. Here a worker is readying steelforms to fill out a panel.



Waffle concrete joist construction is an ideal solution for buildings with wide column spacings and light floor loads. Savings are made in the formwork and in the elimination of ineffective concrete.





There's nothing better than reinforced concrete for permanence. With Ceco's Waffle Construction you can have permanence—plus longer spans and higher beam-free ceilings without increasing over-all building height.

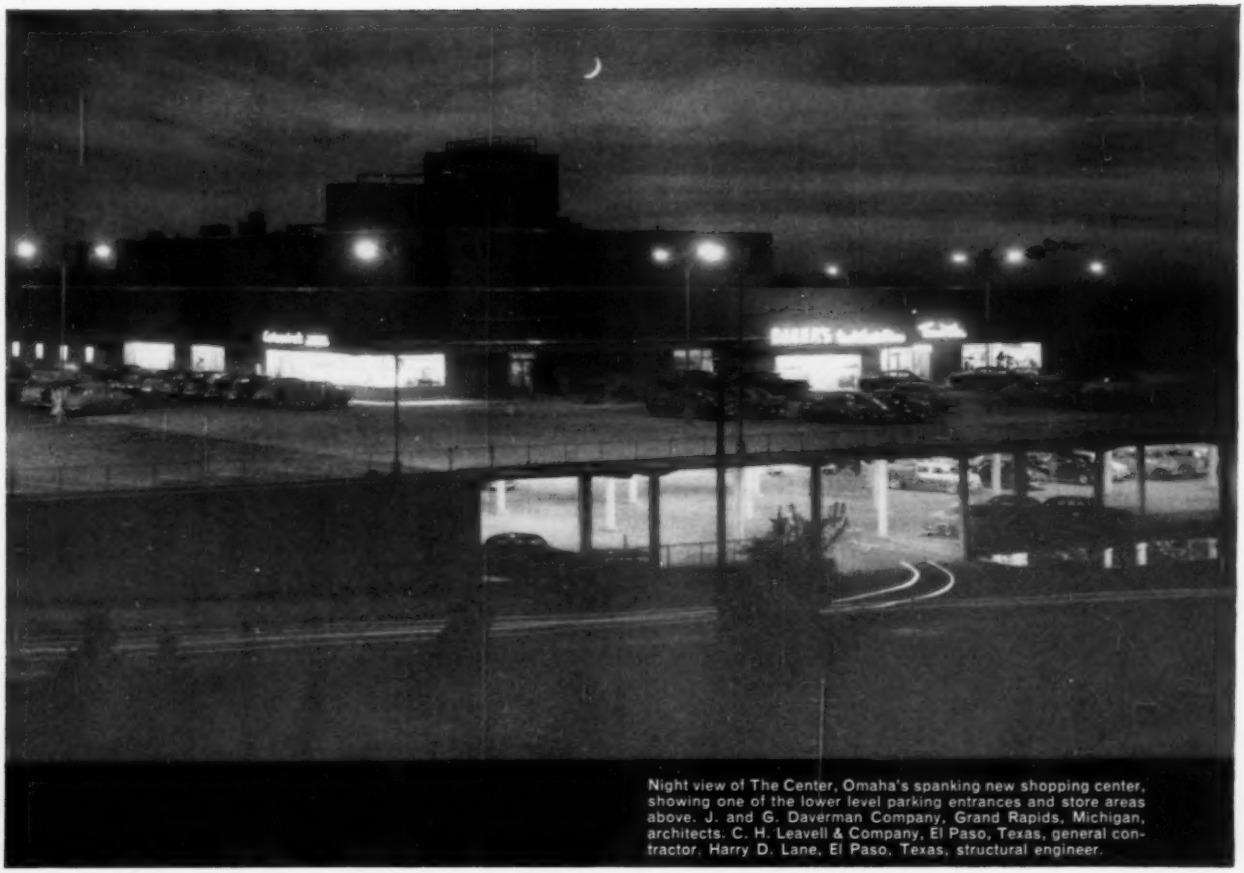


Ceco Open-Web Steel Joists used as roof purlins, as illustrated here, comprise the lightest of all standard roof framing, allowing long spans and light beams, columns and footings. They can be erected summer or winter—and are non-combustible and non-shrinking.

WAFFLE-TYPE PROVIDES

CECO STEEL

IN CONSTRUCTION PRODUCTS CECO ENGINEERING MAKES THE BIG DIFFERENCE



Night view of The Center, Omaha's spanking new shopping center, showing one of the lower level parking entrances and store areas above. J. and G. Daverman Company, Grand Rapids, Michigan, architects. C. H. Leavell & Company, El Paso, Texas, general contractor. Harry D. Lane, El Paso, Texas, structural engineer.

CONCRETE JOIST CONSTRUCTION "WIDE OPEN SPACES" . . . CUTS COSTS 7%

CECO ENGINEERING TAKES "LAZY" CONCRETE OUT OF LONG SPANS . . . Wide open spaces . . . that's the need in shopping centers . . . where the fewer the columns the more freely the merchandise moves. So in designing The Center—Omaha's newest shopping community—the architects J. and G. Daverman Company used Ceco-Meyer Steelform "Waffle" Construction to obtain long, rigid floor spans at reasonable cost. Comparison with other framing methods showed dollar savings of 7%. Non-working "lazy" concrete was eliminated by the open waffle areas—yet this two-way joist system created maximum stiffness. Further savings were made by using Ceco Open-Web Steel Joists for the roof and mezzanine. Ceco also supplied Steel Reinforcing Bars and Welded Wire Fabric, meeting exacting delivery schedules. Here's an example of how Ceco Coordinated-Engineering assures the best structure while saving money and speeding construction. Next time call Ceco for planning help.

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Offices, warehouses and fabricating plants in principal cities
General Offices: 5601 West 26th Street, Chicago 50, Illinois

Windows, Screens and Doors • Ceco-Meyer Steelforms • Concrete Reinforcing • Steel Joists • Metal Roof Deck • Metal Lath

OFFICE LITERATURE

(Continued from page 226)

Standard Cable Trough (AIA 31-C-74)
Bulletin 67A describes the new 70,000 Series cable trough system with built-in coupler. 16 pp. Catalog 853 includes supporting structures for cable trough. 8 pp. *T. J. Cope, Inc., 711 So. 50th St., Philadelphia 43, Pa.*

Fermont Engineered Kilowatts
Bulletin 955 presents a new concept in the field of electric plants: kilowatt-producing machines ranging in capacity from 5 through 250 kw and designed for automatic or pushbutton starting. 8 pp. *International Fermont Machinery Co., Inc., Ramapo, N. Y.**

Window Ideas (AIA 16-E)
Data file includes brochures and details on Bayley aluminum and steel windows and curtain wall systems. *The William Bayley Co., Springfield, Ohio.**

Porcelain Enamel in Architecture
Part I: Veneer-Type Construction of this 24-page design manual shows how and where to use porcelain enamel on exterior and interior walls, exterior trim and special details. *Porcelain Enamel Institute, Associations Bldg., 1145 19th St., N.W., Washington, D. C.*

Terrazzo and Mosaics
Informational kit contains brochures and data and specification sheets. *The Natl. Terrazzo and Mosaic Assn., Manufacturers Div., Inc., Washington 5, D. C.**

Lighting Ware is covered in two technical catalogs published by Corning Glass for architects, lamp designers and lighting engineers. Catalog L-130 contains specifications on shades, bowls and other enclosures, along with wattage recommendations. Catalog L-110-B gives complete information on Corning's new Low Brightness Lens Panel. *Lighting Sales Dept., Corning Glass Works, Corning, N. Y.*

Air Diffusers. The problem of air diffusion from air conditioners is covered in a 15-page book showing typical *Strip Line* diffuser installations, some suggested applications, engineering characteristics and performance charts. *Air Devices, Inc., 185 Madison Avenue, New York 16, N. Y.*

Standard Grading & Dressing Rules
Revised Booklet 15 presents rules for Douglas fir, West Coast hemlock, Western red cedar and Sitka spruce. 35¢. *West Coast Lumbermen's Assn., 1410 S.W. Morrison St., Portland 5, Ore.*

Steel Roof Deck. An 8-page product manual (AIA File 12-C) on wide-sheet metal roof deck with rib design for maximum strength, available in 18-, 20- or 22-gauge with baked-on enamel finish, has been published by *Granco Steel Products Co., 6506 No. Broadway, St. Louis 15, Mo.*

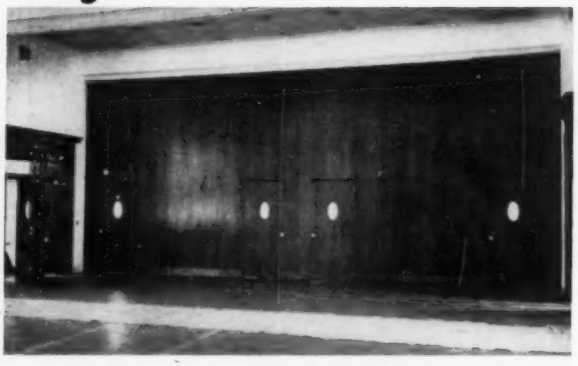
Precipitron Electronic Air Cleaner
Booklet B-1425 explains the cleaning of air by electrostatic precipitation and describes the installation, operation and maintenance of *Precipitron* units. *Westinghouse Electric Corp., Sturtevant Div., Dept. T-079, 200 Readville St., Hyde Park, Boston 36, Mass.**

Automatic Dry-type Air Filter
Bulletin 234-C describes the *Auto-Air-mat*, designed especially for textile mills, newspaper pressrooms and specialized applications. 8 pp. *American Air Filter Co., Inc., 215 Central Ave., Louisville 8.*

(More Literature on page 286)

Fairhurst T.M. Reg.

Unitslide FOLDING WALLS offer a Modern Approach to Religious Architecture . . .



TEMPLE ISAIAH
Forest Hills, N. Y.

Architect: Schuman & Lichtenstein, N. Y.

2 Fairhurst Unitslide Walls permit maximum use of space areas in this up-to-date community center

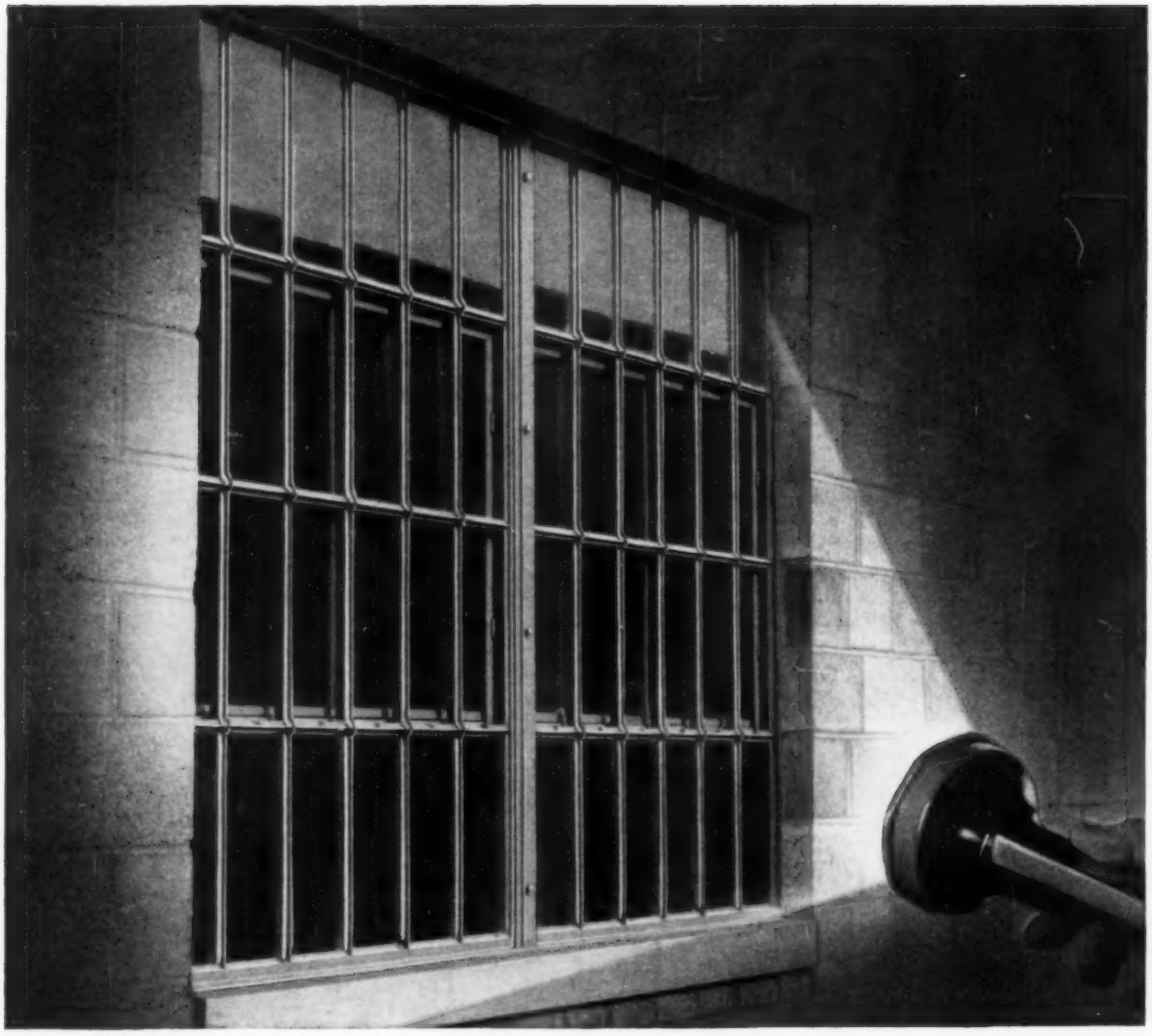
Top: one wall, closed. Right: shows walls, units partly opened. Bottom: Head-on view shows one wall in place, other folded into pocket. Walls consist of 6 units, each 6' wide, 15' high, faced with Honduras Mahogany and Walnut.





To serve a large suburban community within a few miles of New York City, Temple Isaiah maintains a full calendar of activities for all ages and interests, day and night, throughout the week. Large and modern as it is, the Temple required utmost flexibility of space to meet these heavy demands. To solve the problem, two Fairhurst **Unitslide** Folding Walls were installed—one on each side of the entrance corridor. This permits four different arrangements of auditorium space. Other advantages: smooth, quick operation of the walls; solid, rigid structure; high sound retardance permitting meetings to be conducted simultaneously in adjoining rooms with full privacy; striking beauty of finish. We offer a generation of specialized knowledge in folding wall construction.

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Victor Gruen & Associates

Chief Engineer Contini says: "The Tufcor alternate was selected by the contractor over a conventional forming system, and we're certainly pleased with the way it came through. Instead of conventional forms for casting the building's 13 concrete slab floors, Tufcor was used. The result was a much cleaner job without a lot of shoring. And as we expected, valuable construction time was saved."



H. B. RIGHTMIRE
C. L. Peck Construction & Realty Co.

Project Manager Rightmire says: "Tufcor saved us two months over conventional forming systems. We had no delays for form stripping, and subtrades worked on the deck below when the deck above was laid. Placing the pre-cut, job-sized Tufcor sheets was a fast, easy operation. Special anchorages were provided because of seismic conditions. Our savings and speed with Tufcor were far better than we're able to get with conventional forming."



G. W. BAUER
C. L. Peck Construction & Realty Co.

Job Superintendent Bauer says: "We measured Tufcor against our experience with conventional forming every step of the way. Tufcor saved us quite a bit of clean-up time because there was so little leakage of wet concrete. And on concreting, Tufcor saved at least 60 days. We poured two floors one week, three the next—a floor every other day. We were able to organize crews so much better with no stripping to do and no uneven demands for labor."

IN LOS ANGELES:

New use of TUFCOR® saves two months construction time on new Tishman project

Replacing customary forming for concrete floor slabs, TUFCOR stays in place, eliminates removal of forms, speeds up concreting to a rate of one full floor every other day

If you've always thought of Granco's Tufcor *only* in terms of strong, fire-safe roof construction, the Tishman Building team's experience proves the profitable use of this tough-tempered, deep-corrugated steel form for floor slabs with spans up to 7 ft.

This noted team of designers and builders used 230,000 sq. ft. of uncoated 24-gage Tufcor as permanent, stay-in-place floor forms. Typical span was 6′8″ with a 3¾″ lightweight structural concrete slab. The tough-tempered, corrugated Tufcor sheets gave the finished slab high strength and safety well beyond ordinary requirements.

Tufcor out-performed conventional forming methods right down the line. Pre-cut Tufcor was easy to handle and went in faster, provided an immediate working deck for all trades, eliminated form stripping, reduced planking and shoring. Concrete placing was completed in an amazingly short time. *Over all, Tufcor keyed a 60-day faster construction schedule!*

Tufcor-formed floors may well be an equally profitable specification in many of your own projects. For complete information, estimates or costs on your building plan, consult Granco home or district office, Attention Dept. R-63; or, see our listing in Sweet's Catalogue.

USE OF TUFCOR, PRAISES ITS PERFORMANCE!



M. WEINGARTEN
Tishman Realty & Construction Co.

Builder's Representative Weingarten says: "Time means money on a construction job like this. The fact that Tufcor doesn't have to be removed once it's placed saved us a lot of time. It was only one of several ways Tufcor helped us keep costs down. Equally important, we'll start realizing tenant revenue earlier because of earlier completion of the building."

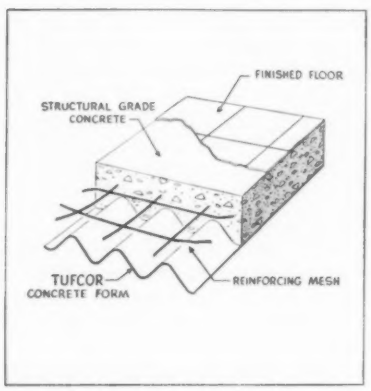


NOW UNDER CONSTRUCTION, the modern, new 13-story Tishman Building at 3325 Wilshire Boulevard in Los Angeles. *Architects-Engineers:* Victor Gruen & Associates, Los Angeles, California. *Owner:* Tishman Realty & Construction Co., New York, N.Y. *Contractor:* C. L. Peck Construction & Realty Co., Los Angeles, California.



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How Tufcor formed floors in Tishman Building. Slab reinforced by wire mesh.



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OFFICE LITERATURE

Electrified Concrete Joist Floors
(AIA 31-C-62) Presents *R/C Duct Floors* with electrical outlets available wherever they are needed. 16 pp. *Concrete Reinforcing Steel Institute, 38 So. Dearborn St., Chicago 3, Ill.**

Figure Types in Mahogany
Illustrates and describes 40 outstanding specification standards of mahogany figure types and presents facts about the origin, development and reason for grain patterns of this wood. $1. *Mahogany Assn., 666 Lake Shore Drive, Chicago 11.*

Asphalt Tile Color Chart (AIA 23-G)
The 1956 color classification chart includes some 26 regular plain and marbleized colors, new terrazzo and cork patterns. *The Asphalt Tile Institute, 101 Park Ave., New York 17, N. Y.*

Structural Systems, Wall Panels
The 1956 Stran-Steel Architectural Products Catalog includes metal curtain wall panels and 10- and 12-in. joists. 24 pp. *Stran-Steel Corp., Ecorse, Detroit 29.**

I-B-R Guide C-30
Presents a step-by-step procedure for calculation of residential cooling loads. The guide is available for $1 and a set of 50 calculation sheets (No. 3001) for $1.25 from the *Institute of Boiler and Radiator Manufacturers, 608 Fifth Ave., New York 20, N. Y.*

Otis Autotronic Elevators
Describes *Autotronic* program systems for without-attendant elevators. 24 pp. *Otis Trav-O-Lator*, describing horizontal contour transportation, also available from *Otis Elevator Co., Advertising Dept., 260 Eleventh Ave., New York 1, N. Y.**

Johns-Manville Insulations
Provides information on composition, physical and thermal properties and sizes of thermal insulations and refractories. 20 pp. *Johns-Manville, 22 East 40th St., New York 16, N. Y.**

Square and Slotted Air Diffusers
Bulletin K-27 describes *Kno-Draft* "Architects' group" ceiling air diffusers, with selection and performance charts and dimensions. 12 pp. *Connor Engineering Corp., Danbury, Conn.**

Homegard Built-in Vacuum Cleaner
Bulletin 147 points out the advantages of a built-in vacuum cleaning system for residential use and describes installation and features of the *Homegard* system. 2 pp. *The Spencer Turbine Co., Drawer E — Station A, Hartford 6, Conn.*

Exterior Masonry Construction
Discusses fundamentals of sound, watertight masonry covering the influence of mortar, masonry units, design and workmanship on good masonry. By Walter C. Voss, M.I.T. Professor Emeritus. 70 pp. *National Lime Assn., 925 15th St., N.W., Washington 5, D. C.*

Structural Stainless Steels
Covers exterior walls, facing systems and flashing, roofing and drainage. 12 pp. *Progress Report on Stainless Steel Curtain Walls* (AIA 15-H-1) also available from *Allegheny Ludlum Steel Corp., 2020 Oliver Bldg., Pittsburgh 22.**

Houze Lo-tran Glass
Bulletin L-2 describes *Lo-tran*, a specially designed window glass which is said to eliminate glare and absorb heat. 4 pp. *Houze Glass Corp., Point Marion, Pa.*

(More Literature on page 290)



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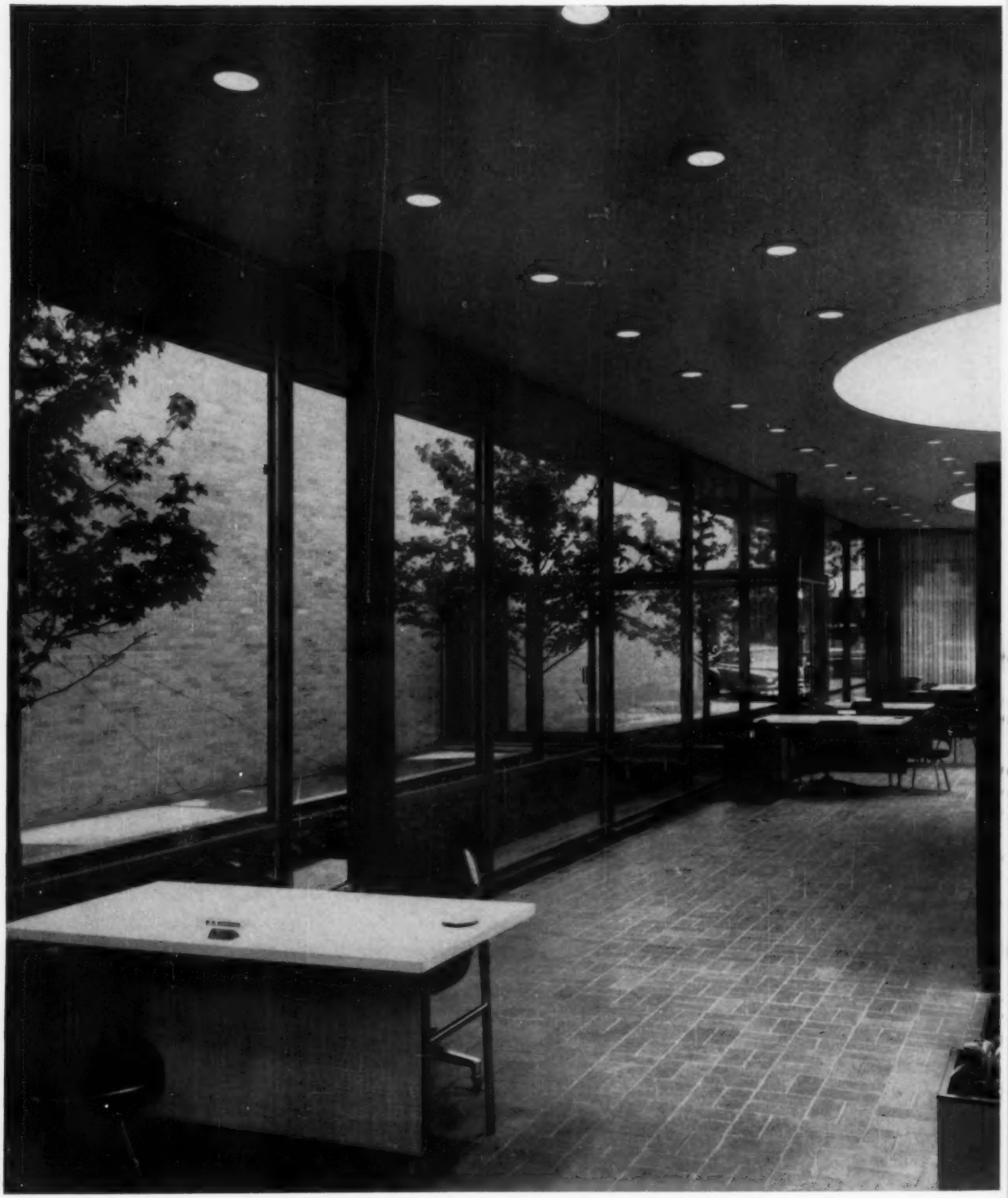
Building suppliers stock melamine laminates in a wide range of deeptones, pastels, mosaics, marbleized effects, wood grains and all-over designs. The panels are available in two thicknesses (1/10 inches and 1/16 inches), in widths from 30 inches to 48 inches, and in lengths up to 16 feet.

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*Monsanto supplies melamine resins for decorative laminates sold under these trade names: *Consoweld, Corlex, Decarlite, Farlite, Fiberesin, Lamin-Art, Micarta, Nevamar, Panelyte, Pionite, Plastilight, Railite, Resilyte, Richelain, Textolite.*

Present and future applications *of plastics in construction are under constant study by Monsanto's structural Plastics Engineering Group. You are invited to check them for expert technical counsel. Monsanto Chemical Company, Room* **236,** *Springfield 2, Mass.*

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ARCHITECTS EERO SAARINEN & ASSOCIATES of Bloomfield Hills, Michigan, have achieved impressive originality in designing the Irwin Union Bank and Trust Company building in Columbus, Indiana. Adding importantly to the beauty, advanced architectural planning, and practical advantages of this structure is Pittsburgh's Twindow®. These window units, with insulation *built in*—were utilized for all exterior glazing.

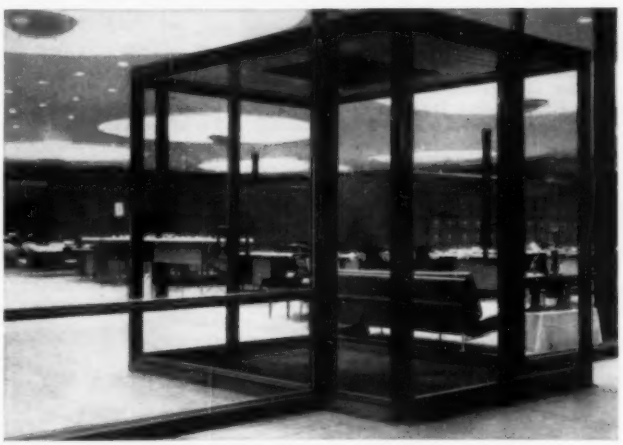
Unique Bank Building in Columbus, Indiana,

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THE ENTRANCE to the bank building is highlighted by the full use of Pittsburgh Glass. The floor-to-ceiling glass panels give this outstanding structure an open, airy atmosphere which is appreciated by the depositors and bank personnel alike.

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Bare soft copper conductors insulated with high dielectric strength polyvinyl chloride insulation. Underwriters' Laboratories approved for fire and burglar alarm system internal wiring.

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OFFICE LITERATURE

Architectural Porcelain for the School (AIA 15-M-1)
Contains detail drawings and complete line specifications for architectural porcelain in school construction. 4 pp. *Davidson Enamel Products, Inc., 1117 E. Kirby St., Lima, Ohio.**

Group Washing Equipment
Catalog 5601 presents the complete line of Bradley group showers, wash-fountains, drinking fountains and playground showers. 28 pp. *Bradley Washfountain Co., No. 22nd and West Michigan Sts., Milwaukee 1, Wis.**

Ceramic Tile
Booklet 206 catalogs a full line of glazed wall tile, unglazed floor tile, conductive tile and china bathroom accessories. 24 pp. *American-Olean Tile Co., 1000 Cannon Ave., Lansdale, Pa.**
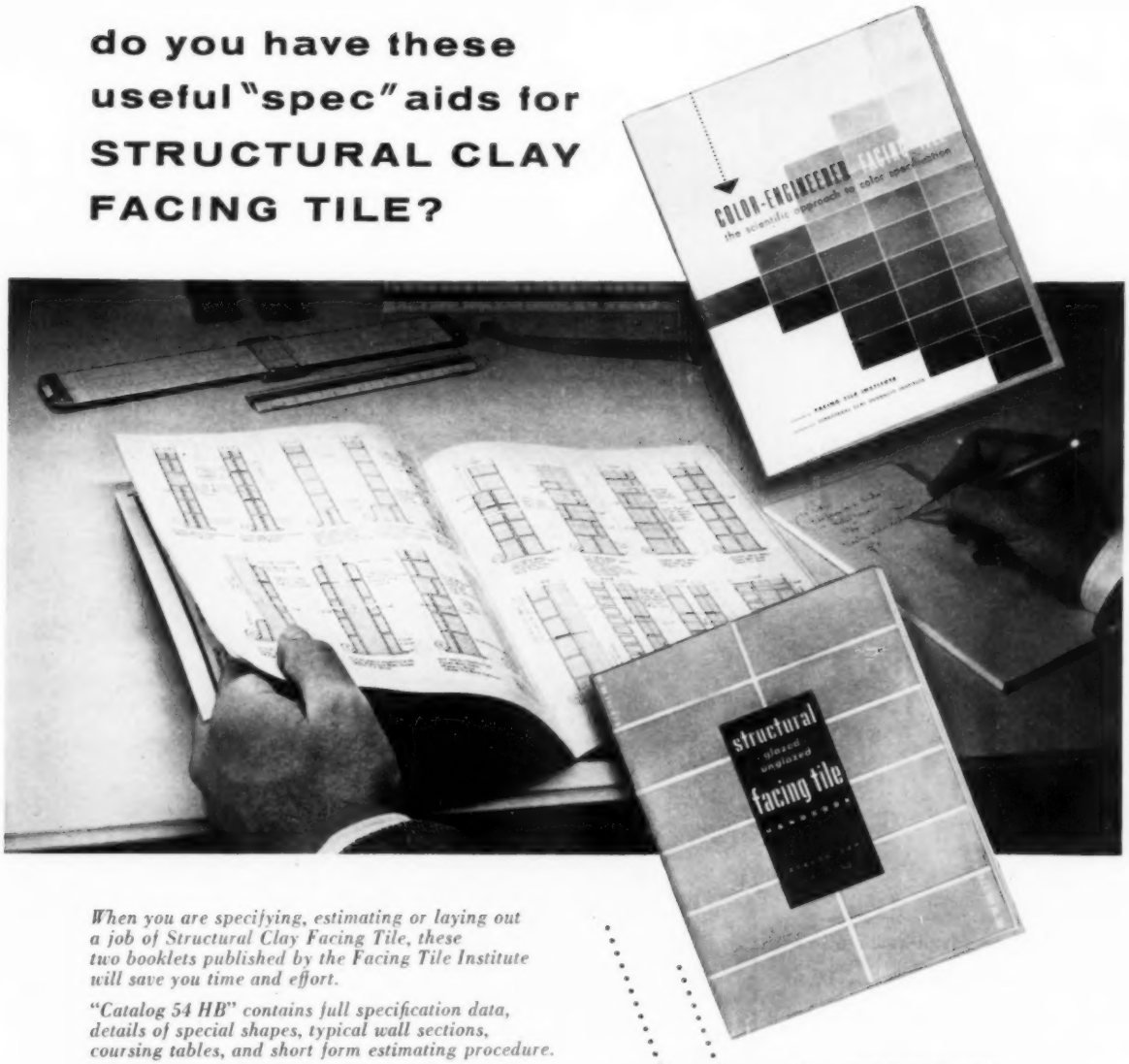
Scotch Brand Electrical Products
Specification guide on tapes, spring connectors, resin and insulation for architects and engineers. 12 pp. *Minnesota Mining & Mfg. Co., Electrical Products Div., 900 Fauquier Ave., St. Paul 6, Minn.**

Home Lighting Ideas (AIA 31-f)
Data sheets include room and lighting layouts for typical kitchen and bathroom arrangements. 50¢. *Illuminating Engineering Society, 1860 Broadway, New York 23, N. Y.*

Better Lighting in Hardware Stores
Contains pointers on proper lighting in relation to store location, types of merchandise handled, economy, maintenance and store flexibility. 12 pp. *Sylvania Electric Products Inc., 1740 Broadway, New York 19, N. Y.*

Literature Requested
Ronald M. Arnsby, 422 Barret Circle, Wooster, Ohio.
E. E. Ciesa, Architect, 3009 Woodworth Place, Hazelcrest, Ill.
Dana D. Corrough, AIA, 205 Lincoln Center, 6725 Pacific Ave., Stockton, Calif.
Reed C. Lowden, Architect, 306 Dwight Bldg., Jackson, Mich.
E. Rinkov, Chief Engineer, The Hadassah-Hebrew University Medical Centre, Building Office, P.O.B. 196, Jerusalem, Israel.
Allan G. Wallsworth, Architect, Bureau of Buildings and Public Buildings, Milwaukee, Wis.

do you have these useful "spec" aids for STRUCTURAL CLAY FACING TILE?



When you are specifying, estimating or laying out a job of Structural Clay Facing Tile, these two booklets published by the Facing Tile Institute will save you time and effort.

"Catalog 54 HB" contains full specification data, details of special shapes, typical wall sections, coursing tables, and short form estimating procedure.

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NATCO CORPORATION, *Pittsburgh 22, Pa.*
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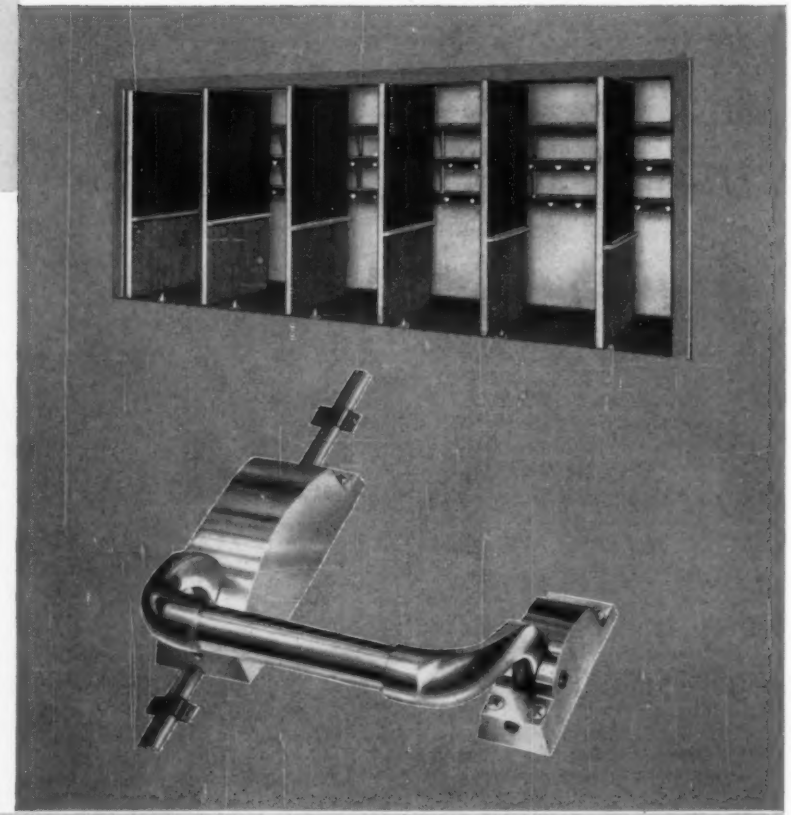
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Kids! Pushing, rough-housing, kicking feet, inquisitive hands...These are the things rough on school hardware. Unobstructed openings, center-supported doors on concealed ball bearings, solid bronze operating hardware make S&G units "Kidproof."* Simple operating mechanism, concealed exterior screws, and extra tough construction make S&G panic exit devices "Kidproof"* for your school... yet retain quick, easy "Feather Touch" operation.

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CorkAtile is a new type floor covering combining beautiful natural cork appearance with durable and resilient qualities in Asphalt or Vinyl Asbestos Tile.

A Floor covering that is a natural setting for any room in the home . . . its quiet dignity adds a warm and confident feeling to reception rooms, private offices, schools and churches.

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◇ FLOOR TILE in Vinylflex, Poly-Krome, Parquetry, CorkAtile, Asphalt, Rubber, Vinyl, Cork ◇ CORONET PLASTIC WALL TILE

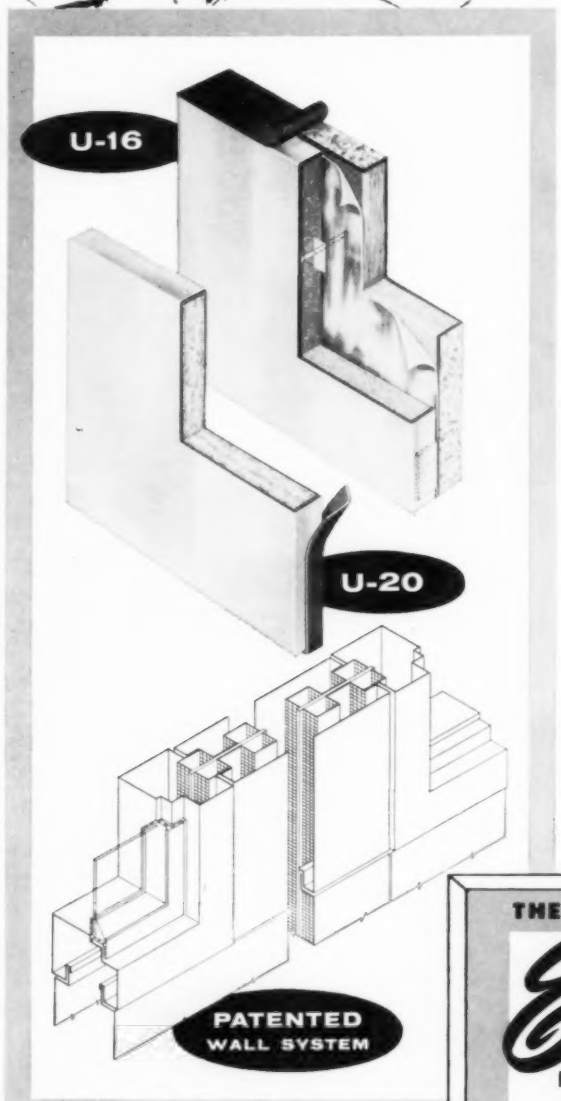


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WHEN YOU SPECIFY

Porcelain Enamel



Producing Architectural Porcelain Enamel is a Responsibility for Experienced Hands

ERIE is an *engineering* organization that designs and builds architectural panels finished with Porcelain Enamel . . . NOT just an enameling plant. And *that* makes a difference! For a quarter century, Erie has been a leader in the development of porcelain enamel panel construction, and has helped advance its progress from simple veneer forms to the engineered panel and wall systems of today.

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WRITE for Architects' Sketch Book III or see us in Sweet's.



Down-town office or gracious inn



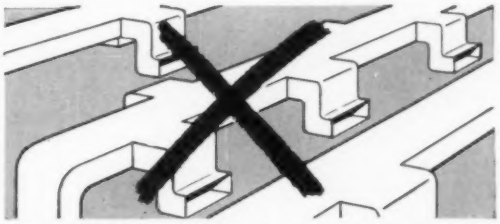
CONTEMPORARY motif of office is enhanced by the trim, modern styling of Modine AIRditioner. Quiet, individually-controlled air conditioning provides instant comfort . . . increases employee efficiency.



COLONIAL atmosphere with a modern touch — when Modine AIRditioners provide *fresh, clean air* . . . in every climate, in every season. They solve all air conditioning and heating problems — with performance, styling, economy.

Modine AIRditioners are the quiet way to air condition new or existing buildings

MODINE AIRditioners provide *quiet, personalized* air-conditioned comfort 365 days a year for any room with a turn of the switch. And this fingertip control enables occupants to *feel* comfortable *instantly* —without unpleasant air blasts. What's more, Modine styling blends units with any design . . . be it traditional or contemporary, new construction or remodeling job. In addition, Modine AIRditioners dehumidify, clean and circulate *fresh air* for maximum enjoyment. They're ideal for air conditioning existing buildings, replacing unsightly radiators with smart heating-cooling units.



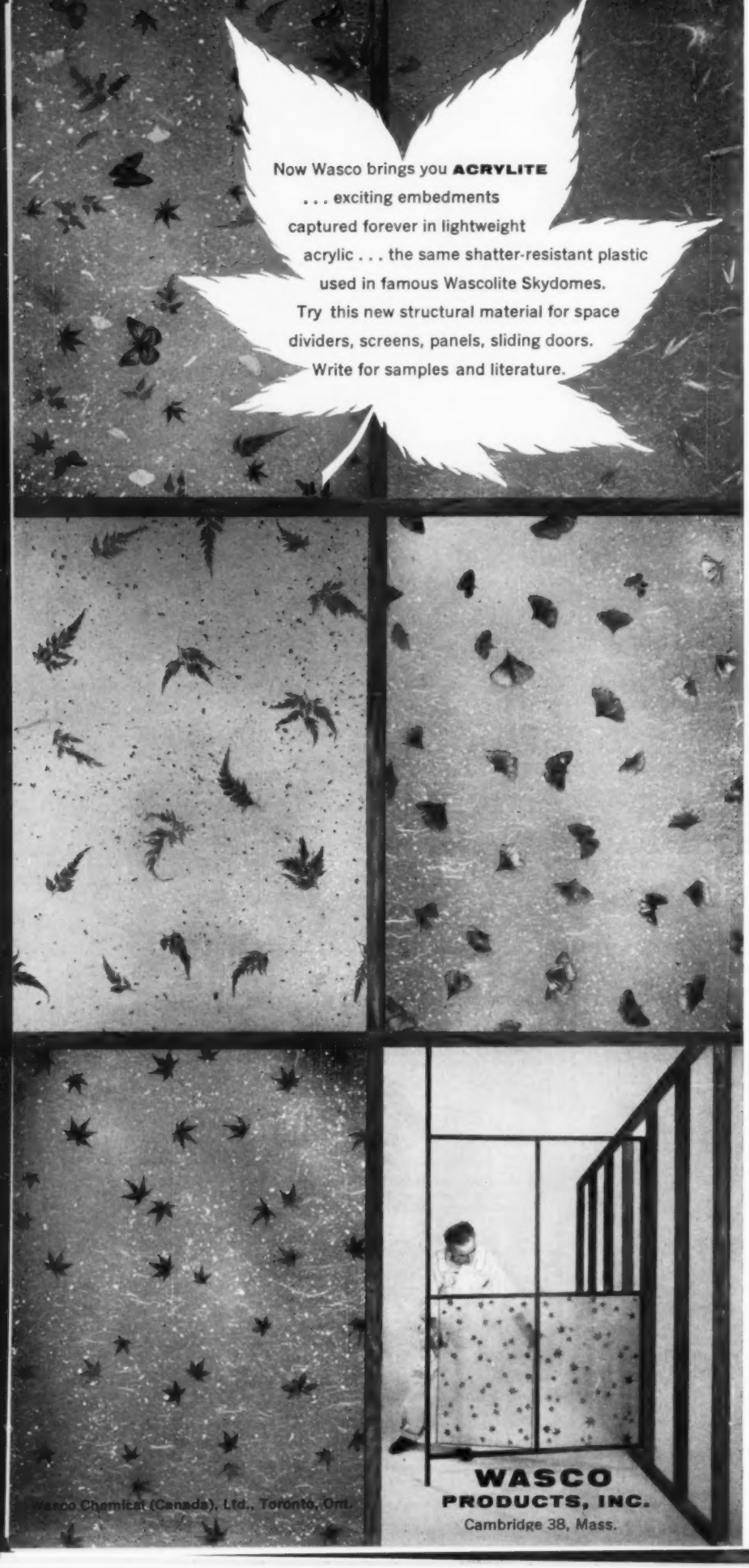
NO EXPENSIVE DUCTWORK is needed with Modine AIRditioners. Same water supply and return piping, plus drain, is used for both central boiler and chiller.



Ask the Modine representative listed in your classified phone book for Bulletin 755—or write Modine Mfg. Co., 1510 DeKoven Ave., Racine, Wis.

Modine *Airditioners* ✱ TRADEMARK

A-1313



THE RECORD REPORTS

ON THE CALENDAR

June

3–6 Summer annual meeting, American Society of Refrigerating Engineers — Cincinnati

4–7 Annual convention, Edison Electric Institute — Atlantic City

4–8 The 60th annual meeting, National Fire Protection Association — Hotel Statler, Boston

4–8 Knoxville convention, American Society of Civil Engineers — University of Tennessee, Knoxville

6–8 Second Annual Meeting, American Nuclear Society — Palmer House, Chicago

6–10 The 49th Annual Assembly, Royal Architectural Institute of Canada — Banff Springs Hotel, Banff

7–8 Annual convention, Minnesota Society of Architects — Hotel Nicollet, Minneapolis

11–15 Seventh National Plastics Exposition, sponsored by the Society of the Plastics Industry, Inc. — Coliseum, New York City

12–16 World Conference on Earthquake Engineering — University of California, Berkeley

17–21 Semi-annual meeting, American Society of Mechanical Engineers — Hotel Statler, Cleveland

17–22 Annual meeting, American Society for Testing Materials, and 12th Exhibit of Testing and Scientific Apparatus and Laboratory Supplies — Atlantic City

17–23 Annual convention, American Library Association — Fontainebleau Hotel, Miami Beach, Fla.

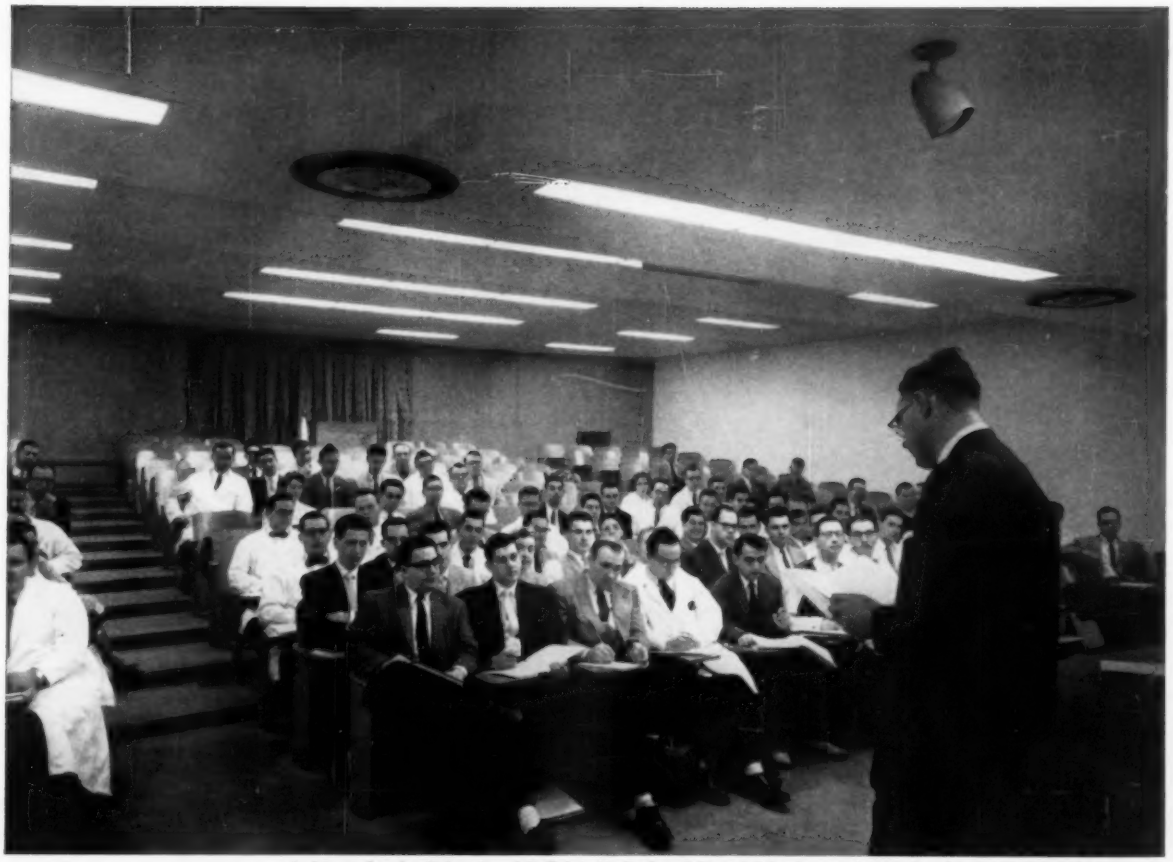
17–30 Third Annual Material Handling Training Conference — Lake Placid. Details from: Director, Material Handling Training Conference, 56 Robbins Rd., Lexington 73, Mass.

18–20 Semi-annual Meeting, American Society of Heating and Air Conditioning Engineers — Shoreham Hotel, Washington

18–29 International Home Furnishings Market — The Merchandise Mart, Chicago

18ff Fourth Annual School Plant Planning Workshop, sponsored by the Department of Architecture and Architectural Engineering, under the auspices of

(Continued on page 300)



Architects for the University of Buffalo's Medical and Dental School were James, Meadows and Howard. James N. DeSerio was consulting engineer. *General contractor:* The John W. Cowper Company, Inc. All are Buffalo firms.

LONGSPANS PROVIDE UNOBSTRUCTED SPACE IN TWO MEDICAL SCHOOL AMPHITHEATERS

At the University of Buffalo's Medical and Dental School, two large amphitheaters extend from the first floor of the center wing. The larger of the two seats 450, the smaller one 250. Like the rest of the building, the exterior walls are brick-faced, with limestone trim. The amphitheaters are equipped with television screens and projectors so that students can watch unusual operations as they are actually being performed in other hospitals.

Both amphitheaters were built with Bethlehem Longspan Steel Joists in the roof structure. The designers selected these joists in order to provide column-free, unobstructed floor space. The joists, ranging in length up to 70 ft, are spaced 5 to 6 ft apart, and carry 2-in. precast concrete planks and 1½-in. insulation for the roof. The underside of the steel is covered with acoustical tile.

Wherever column-free space is an important consideration in your planning, remember Bethlehem Longspans. They come in lengths up to 96 ft, and are delivered to the job site fully fabricated, ready for instant placing.



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BETHLEHEM STEEL

BETHLEHEM LONGSPAN JOISTS

ROOFS LAST LONGER INSULATED WITH



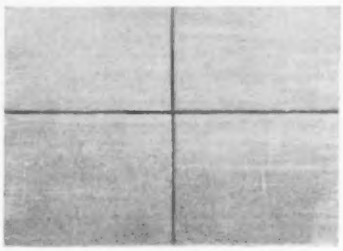
REDUCES MOISTURE PROBLEMS — Because the expanded Coralux Perlite of which it is made is impervious to water, Fesco Board cannot absorb sufficient moisture to cause expansion damage. From 0 to 100% relative humidity, expansion is less than ¼ of 1%.

PERMANENT INSULATION — Because Fesco Board has no wick-like action (as do fibrous boards) it will remain dry under adverse job conditions. During an authenticated test in 24 hours total submersion in water, it absorbed only 1.4% by volume.



CARTONED — For ease in handling and storage, and for job protection, rigid, performance-tested Fesco Board is packaged in convenient cartons, containing 60 board feet per carton.

TRUE CORNERS — Carton-protected Fesco does not dog-ear, trims smoothly, is dimensionally stable — permitting tight, smooth joints.



EASILY HANDLED—Roofers are increasingly endorsing Fesco's exclusive, fast laying 24" x 36" size because it is increasing daily production and improving workmanship wherever used.



FESCO®

ROOF DECK INSULATION

BOARD

hermetically sealed Perlite composition guards against moisture and fire

CHARACTERISTICS

The basic ingredient of Fesco Board is Coralux Perlite, expanded and annealed at 1700°F to form impervious, air-entrained beads of glass. It offers these unique properties:

INCOMBUSTIBLE — Reliable, authenticated laboratory tests show Fesco Board to have a flame spread factor of only 20.5, and smoke contribution factor of 0.

PERMANENT — Expanded Coralux perlite, the principal ingredient of Fesco Board, is dielectric, chemically inert and non-absorptive. As a result, Fesco Board will not rot, mildew, deteriorate. Mineral composition will not support organic life of any type.

STRUCTURALLY STRONG — Independent laboratory testing has proved Fesco Board to be compressible, yet essentially stable. In actual compression tests, compressed to ⅛ its thickness, Fesco Board withstood 170-lbs. p.s.i. and to prove its inherent strength withstood 55-lbs. p.s.i. of transverse pressure.

LIGHTWEIGHT — Easy-to-handle board units measure 1" x 24" x 36" and weigh approximately 9 lbs. per square foot — about one half the weight of most existing insulation boards.

MOISTURE RESISTANCE TEST DATA: Fesco Board has no capillary or wick-like attraction for moisture as do fibrous materials. Moisture resistance tests by a nationally known laboratory read as follows:

Thickness Inches	% Absorption By Volume	
	2 Hour	24 Hour
1	0.5	1.4

From 0 to 100% relative humidity no volume changes experienced in Fesco Board.

NO BETTER BOARD AVAILABLE AT ANY PRICE

Developed *specifically* for roof deck insulation Fesco Board provides *all* the properties demanded by today's roofers and today's roofs. Here is the solution to moisture caused roof failures. Here is a continuous shield against fire and moisture. Here is new permanence. Yet, Fesco Board carries no price premium, imposes no special handling. Write us for samples and technical data. Test for yourself the properties which Schundler research has incorporated into this newest, finest roof deck insulation.



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"How can you improve as good a product as the "D" Type boiler?" It's a natural question when you consider that here is a boiler with sound, basic design, strong, careful construction and with a reputation for the highest standards of performance throughout the big building field. But a leader never stands still and Fitzgibbons engineers are constantly striving for additional improvements that better suit today's trends of installation. Hence, the following new features, sure to please engineers and contractors:

- Improved front smokebox access doors provide greater clearance for automatic firing equipment. Complete smokebox design assures a gas-tight fit.
- Rear smokebox also redesigned for tighter fit and easier accessibility.
- Lifting eyes in the front and rear heads for easier rigging on the job.
- Front and rear heads now extend beyond the sides to facilitate covering the boiler on the job.

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SINCE 1886 — MOST ECONOMICAL IN FUEL — THE FITZGIBBONS BOILER — 1886

The Fitzgibbons Boiler®

THE RECORD REPORTS

(Continued from page 296)

the College of Education; until July 20 — University of Colorado, Boulder

23ff Sixth International Design Conference; until July 1 — Aspen, Colo.

24–27 The 57th annual meeting, American Society of Landscape Architects — Cleveland Hotel, Cleveland, Ohio

25–29 Summer and Pacific General Meeting, American Institute of Electrical Engineers — San Francisco

25–29 Annual meeting, American Society for Engineering Education — Iowa State College, Ames, Iowa

27 Porcelain Enamel on Aluminum Conference, sponsored by the Porcelain Enamel Institute, Inc. — Hotel Cleveland, Cleveland

27–29 Annual meeting, Stained Glass Association of America — Copley Plaza Hotel, Boston

July

1–6 The 94th annual meeting, National Education Association — Civic Auditorium, Portland, Ore.

9–11 Health for the Aging — Medical and Social Services; Ninth Conference on Aging sponsored by the University of Michigan — Ann Arbor, Mich.

16–18 Food Service Institute, sponsored by *College and University Business* in cooperation with Northwestern University and the University of Chicago — Knickerbocker Hotel, Chicago

22–28 The 23rd International Congress for Housing and Town Planning; theme, "The City and Its Surroundings" — Vienna, Austria

August

13–31 The Artist, Materials and Technology, a special summer program, sponsored by the Department of Architecture — Massachusetts Institute of Technology, Cambridge 39, Mass.

25ff Seventh annual National Furniture and Home Furnishings Show; until Sept. 11 — Coliseum, New York City

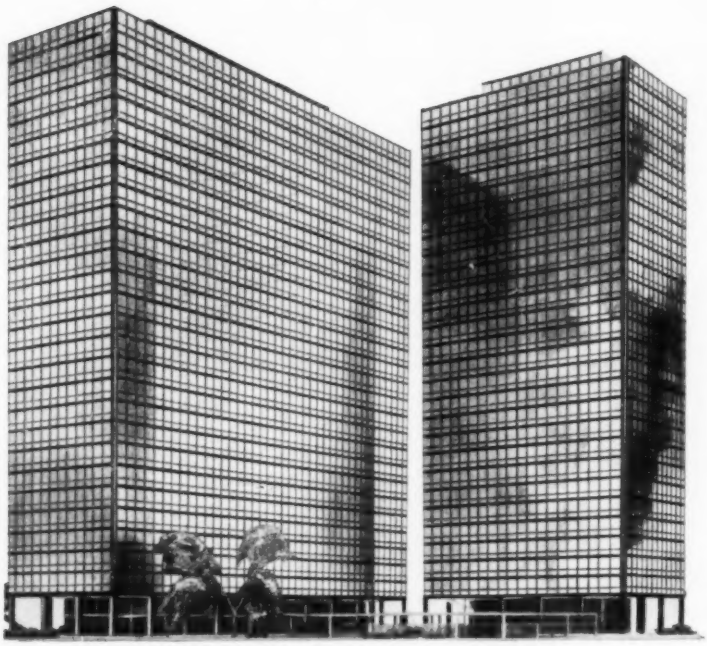
27–31 The 86th annual Congress of Correction, American Correctional Association — Hotel Statler, Los Angeles

(Continued on page 304)

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a one-time cost...
not a constant expense!





In today's large apartment buildings, where service callbacks would be costly, architects and contractors alike depend on trouble-free Sterling Sliding Door Hardware. The superior design and construction of high-quality Sterling Hardware *eliminates* constant replacements and adjustments... provides smooth, quiet door performance for the life of the building. This, plus the time and work saved *during* the installation, are sound reasons why Sterling Sliding Door Hardware should be included in *your* plans.

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HOW TO SELECT

FOR ANY REQUIREMENT . . .

A simple definition of a floor drain is "a device set in the floor for carrying off waste water". Yet the selection of even a simple floor drain can be a difficult problem because of the particular conditions or requirements that are present. For example — will the waste water contain quantities of sediment, chemicals or oils? Will traffic over the drain be heavy or light? Is there a danger of backflow?

All these conditions and many more influence the type of drain to be selected for the particular location. One method that is helpful in determining the proper type of floor drain is to use a check-list of drain features such as is shown at the right. This list shows the great variety of features available in Josam drains and illustrates those features in the drains on the next page.

A far easier, quicker and more accurate method of selecting the drains is to call your Josam representative. Out of his years of specialized experience, out of his personal knowledge of the hundreds of floor drains in the Josam line, he can quickly recommend the drain that will have exactly the right features for your needs, because Josam makes a floor drain for every need.

Why not take advantage of this service when it costs you nothing . . . why take less than the best when the best costs no more? Call Josam for all your plumbing drainage needs — and you'll get your job done right!

☐ ADJUSTABLE STRAINER or TOP	See No. 1, 2, 3, 9
☐ INTEGRAL TRAP	See No. 1, 5, 6, 11
☐ BACKWATER VALVE	See No. 3, 5, 6
☐ FLASHING CLAMP DEVICE	Can be furnished on Numbers 1, 2, 3, 4, 5, 8, 9, 10, 11
☐ TRACTOR GRATE	See No. 4, 9
☐ SEDIMENT BUCKET	See No. 2, 7, 8, 10, 11
☐ CLEANOUT	See No. 5, 11
☐ NON-CLOG TRIPLE DRAINAGE	See No. 2, 8
☐ OUTLETS	See No. 14
☐ MATERIALS AND FINISHES	See No. 13
☐ SPECIAL REQUIREMENT	See No. 11, 12

Josam

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FLOOR DRAINS

IN ANY TYPE OF BUILDING . . .



1 Josam Series No. 200 Floor Drain with integral drum-type "P" trap and adjustable strainer.



2 Josam Series No. 300-35C Floor Drain with polished brass non-clog adjustable strainer.



3 Josam Series No. 380-J Floor Drain with adjustable strainer and Backwater Control.



4 Josam Series No. 610 Floor Drain with deep set tractor grate for locations subject to heavy trucking.



5 Josam Series No. 860-V Floor Drain with brass back water valve caulked into trap and floor cleanout.



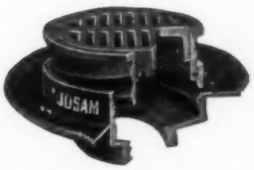
6 Josam Series No. 810-V combined Floor Drain and trap with ball type backwater valve and internal brass cleanout.



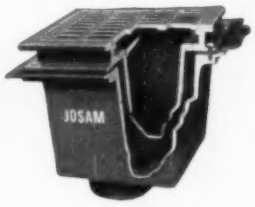
7 Josam Series No. 5040 Floor Drain with rectangular hinged grate, removable slotted sediment bucket.



8 Josam Series No. 5440 Non-Clog Triple Drainage Floor Drain, removable perforated sediment bucket with auxiliary drainage rim.



9 Josam Series No. 3610 Leveleze Floor Drain with adjustable collar to permit raising or lowering grate to meet finished floor level.



10 Josam Series No. 5250 Floor Drain with bolted top section, removable sediment bucket and heavy duty grate.



11 Josam Series No., 6800 Floor Drain with funnel shaped seal, sediment bucket and floor cleanout, for intercepting oils, gasoline and other volatile liquids.



12 Josam Series No. 0370 Drain for draining excess water and slush at entrance of revolving doors.

13 MATERIALS AND FINISHES. Drain bodies are regularly furnished in cast iron lacquer finish unless otherwise described but can be furnished galvanized or malleable iron, brass or everdur with polished brass, chromeplate, everdur or white metal top.

14 OUTLETS. Drains shown above with bottom outlets can also be furnished with side outlet. Bottom outlets available female threaded or inside caulk. Side outlets furnished threaded, hub or spigot.

For each of the many basic drain designs in the Josam line, there are scores of variations depending on the particular requirement. These are all clearly illustrated and described in the Josam Catalog "K" or Manual "SK" — the accepted authorities in the field. These are invaluable reference guides on all plumbing drainage problems. Send coupon if you do not have a copy of Josam Catalog "K" or Manual "SK".

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Please send free copy of Catalog "K" ☐
Manual "SK" ☐

Name ..... Profession .....
Firm .....
Address .....
City ..... Zone..... State .....



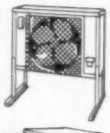
BUSH 'BC' Blower-Condensers

Bush 'BC' Blower Condensers permit air conditioning or refrigeration systems to operate *without* condensing water . . . provide the answer to excessive water costs, limited supply, excessive impurities or disposal problems.

Available in capacities up to 20 Tons, new Bush 'BC' Blower Condensers feature *low noise level* . . . quiet operation.

Patented Inner-Fin coil construction, *a Bush exclusive,* makes these the most compact units on the market. Units are easy to install, have rugged all-steel cases with durable rust-resistant finish . . . are available arranged with either blower fan or propeller fan.

The BUSH line of water-savers, most complete in the industry, also includes:



'CDT' COPPER DECK COOLING TOWERS with all copper decking which cannot rust or rot. Capacities from 3 to 75 tons.



'IEC' INNER-FIN EVAPORATIVE CONDENSERS featuring patented inner-fin coils. Both units available with blower or propeller fan. Capacities from 3 to 90 tons.

'PFC' PROPELLER FAN CONDENSERS — Two basic models, 2.2 Tons and 3.3 Tons, can be combined by mounting in banks to obtain any desired tonnage.



'PS' PRESSURE STABILIZERS which automatically maintain satisfactory head pressure when air cooled condensers operate outside in low ambient temperatures.

Write direct for complete information or contact your experienced BUSH representative for valuable engineering and application assistance.

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BUSH MANUFACTURING COMPANY
WEST HARTFORD 10, CONNECTICUT

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THE RECORD REPORTS

(Continued from page 300)

OFFICE NOTES

Offices Opened

• Charles A. Baylon, Roland H. Lane and Associates have opened branch offices at 504 Mission St., Ketchikan, Alaska. The firm also has offices at 913 Elliott Ave. W., Seattle, Wash.

• John A. Brown and Robert S. Slemmons have formed a partnership, to be known as Brown and Slemmons, for the practice of architecture. Offices are at 405 Crawford Bldg., Topeka, Kan.

• Lucian Caste, Architect, has announced the opening of his offices at 427 Cochran Rd., Pittsburgh 28, Pa.

• Tilleman & Herrick, Architects, is a new partnership formed by John C. Tilleman and Oliver L. Herrick. The firm is located at 307 N. Broadway, Green Bay, Wis.

• Francis J. Walsh has announced the opening of the office of F. J. Walsh at 19 W. 34th St., New York 1, N. Y. Mr. Walsh was formerly chief air conditioning engineer for Mongitore & Moesel of New York.

Firm Changes

• Fred S. Dubin Associates, Consulting Engineers, of 178 S. Whitney St., Hartford, Conn., have announced that Harold L. Mindell has been made a partner in the firm. Other new titles in the firm include Peter S. Myers, Associate Engineer; George J. Giannoni, Electrical Department Head; and Sidney Greenleaf, Project Engineer.

• Durnford, Bolton, Chadwick & Ellwood, Architects, has succeeded the firm of Durnford, Bolton and Chadwick. Principals in the firm are A. T. Galt Durnford, Richard E. Bolton, R. V. Chadwick, and Michael G. C. Ellwood. Offices are at 1980 Sherbrooke St. W., Montreal 25, Canada.

• Philip Johnson Associates, at 219 E. 44th St., New York City, have announced that Philip C. Foster and Edward J. Winter have become project managers and Philip Wiley has become office manager of the firm.

• Albert Kahn Associated Architects and Engineers have elected G. S. Whittaker to the Board of Directors to fill

(Continued on page 308)



LONGER ROOF LIFE...

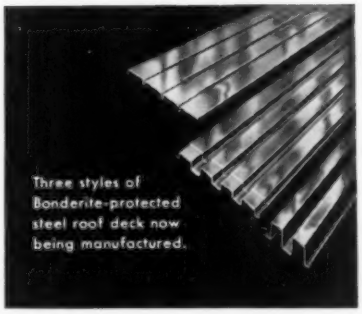
with Bonderized steel roof deck

Now, steel roof deck is available with Bonderite* under the prime paint coat. It costs your customer no more, yet delivers big added values: It anchors paint securely. It resists rust and corrosion through shipping, storage and handling. It prevents spreading finish failure around accidental scratches or nicks.

Now you can get the same finish durability and lasting fine appearance on roof deck that you are getting with Bonderized* steel windows, metal paneling, enclosures, lighting fixtures, and other architectural products.

Make sure your client gets the biggest dollar's worth in roof deck. Specify *Bonderized* steel roof deck.

*Reg. U.S. Pat. Off.



Three styles of Bonderite-protected steel roof deck now being manufactured.

Since 1914— leader in the field

PARKER RUST PROOF COMPANY
2185 E. MILWAUKEE, DETROIT 11, MICHIGAN

BONDERITE corrosion resistant paint base

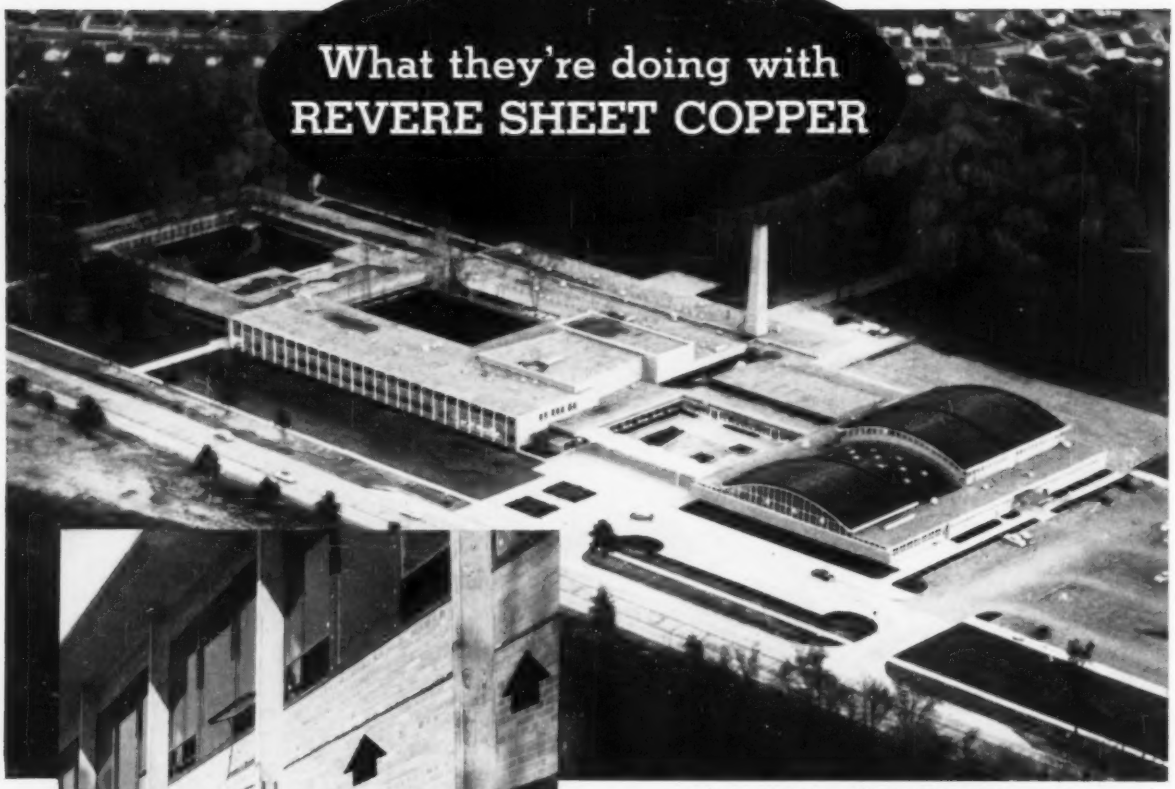
BONDERITE and BONDERLUBE aids in cold forming of metals

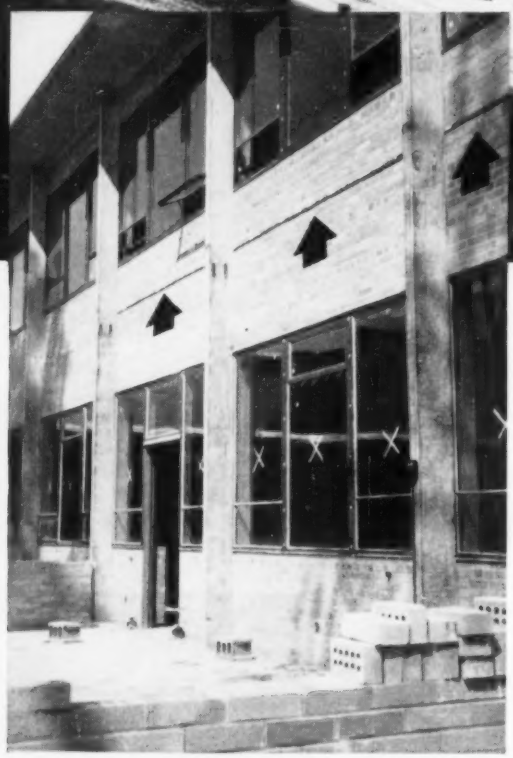
PARCO COMPOUND rust resistant

PARCO LUBRITE wear resistant for friction surfaces

TROPICAL heavy duty maintenance paints since 1883

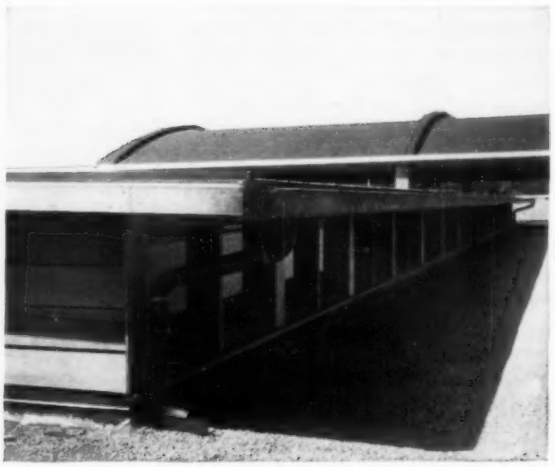
What they're doing with REVERE SHEET COPPER





Architects: EBERLE M. SMITH ASSOCIATES, INC., Detroit, Mich.
General Cont.: O. W. BURKE CO., Detroit, Mich.
Sheet Metal Cont.: J. D. CANDLER ROOFING CO., Detroit, Mich.
Revere Dist.: COPPER AND BRASS SALES, INC., Detroit, Mich.

Here is Revere-Keystone 2-Piece Cap Flashing shown installed between the windows, with receiver in place ready for the installation of the cap. A greenhouse conservatory will be attached to the main building at this point. After the conservatory roof has been completed and base flashing put into place the cap flashing will be inserted. This exclusive design permits masons and roofers to work without interference and makes installation of this factory-formed, 2-piece cap flashing simple and easy.



Approximately 15,000 lbs. of Revere Sheet Copper and 3,700′ of Revere-Keystone 2-Piece Cap Flashing were used on this school. Here you see gutter, conductor, splash pan, gravel stop and Revere-Keystone 2-Piece Cap Flashing . . . all of Revere Copper.

REVERE-KEYSTONE

EASY-TO-PLACE

2-PIECE CAP FLASHING

used to protect against leaks in

EDSEL FORD HIGH SCHOOL

Dearborn, Michigan

The Edsel Ford High School is a fine example of the use of Revere-Keystone 2-Piece Cap Flashing* in modern construction.

The architects, EBERLE M. SMITH ASSOCIATES, INC., have for years been using their own detail of a 2-piece cap flashing, but after discussing the many advantages of the new Revere-Keystone 2-Piece Cap Flashing with them, and the sheet metal contractor, it was readily accepted to meet the flashing specifications.

Here are some of its outstanding advantages:

FREE WALL—It provides the roofer with an unobstructed wall face for the placement of the base flashing. Receiver is laid in during construction of wall, while the insert is snapped in only after all roof and base flashing work is finished.

STRAIGHT CLEAN LINE, PERMANENT GOOD LOOKS—Factory-bent to precise dimensions. This, with the one-inch locking tongue, assures alignment of receiver slots, uniform appearance.

PERFECT WEATHER-SEAL—Factory-formed angles on the receiver and insert cause latter to hug the base flashing, weather-seal effectively. Water cannot blow up behind flashing.

NON-LEAKING DAMLOCK—Requires no soldering except for special conditions. The interlocking copper-to-copper overlap creates a dam which prevents longitudinal travel of water and drains seepage to the face of the wall.

VERTICAL RECEIVER SLOT ON WALL FACE—Position of vertical receiver slot on face of wall eliminates possibility of the receiver slot being crushed shut by weight of masonry.

CAN BE DISASSEMBLED—Insert can be removed with a simple tool and used again, with no loss of neatness or snugness, when the built-up base flashing or roofing have to be repaired.

Find out about this newest method of flashing neatly, quickly, safely, positively. Send for descriptive literature today! Write Advertising Department.

FREE! For group showing—Instructive 16 mm motion picture in sound and color—"SHEET METAL IN BUILDING CONSTRUCTION." A "must" for every Architect, Building Owner, Spec. Writer, Sheet Metal Contractor and Mechanic. Write Revere Advertising Department.

* Patent No. 2,641,203 · Other Pats. Pending

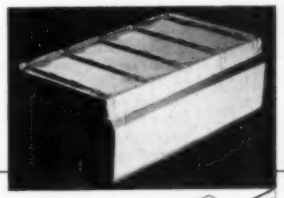
REVERE COPPER AND BRASS INCORPORATED

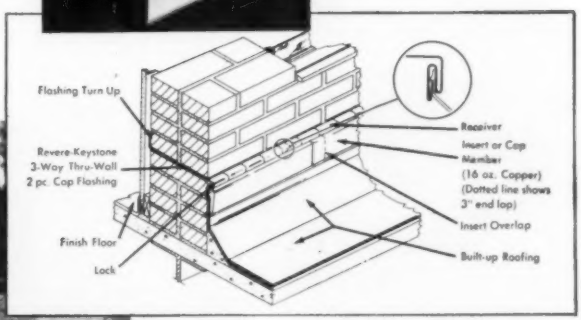
Founded by Paul Revere in 1801

230 Park Avenue, New York 17, N. Y.

Mills: Baltimore, Md.; Brooklyn, N. Y.; Chicago, Clinton and Joliet, Ill.; Detroit, Mich.; Los Angeles and Riverside, Calif.; New Bedford, Mass.; Newport, Ark.; Rome, N. Y. Sales Offices in Principal Cities, Distributors Everywhere.

COPPER ★ BRASS ★ 18 01 ★ REVERE ★ ALUMINUM



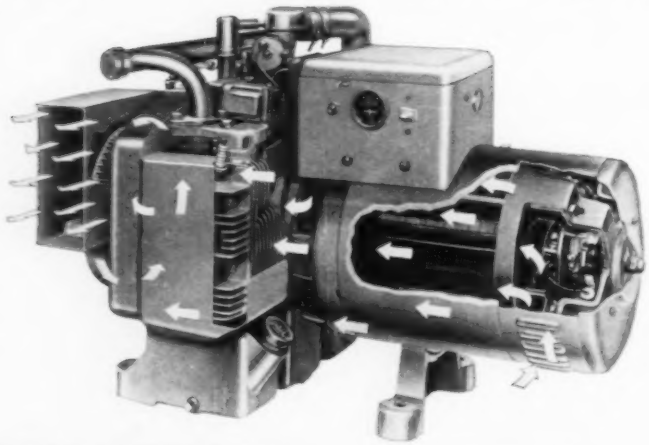




Above is detail of Revere-Keystone 2-Piece Cap Flashing showing combination receiver and Thru-Wall Flashing. Receiver is furnished in 49″ lengths (48″ layup), with 1″ overlap in a locking tongue dam which assures proper alignment. A standard 4″ flat copper receiver with ¼″ hook dam is also available.

Photo at left shows Revere-Keystone 2-Piece Cap Flashing installed at the Edsel Ford High School. Skylights in foreground also are flashed with Revere Copper.

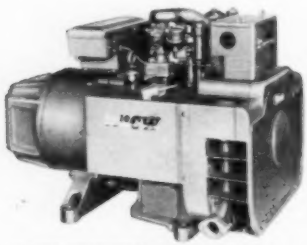
HOW Vacu-Flo AIR-COOLING SIMPLIFIES INSTALLATIONS OF ONAN ELECTRIC PLANTS





VENTILATES INSTALLATION AREA

Vacu-Flo cooling takes air from the room, through the electric plant, and expels it outside through a single duct. Eliminates fumes; keeps room filled with fresh air.



DUCT CARRIES EXHAUST LINE

On the Onan CW series of electric plants (7½ and 10KW), the exhaust pipe is carried through vent duct to the outside making only a single opening necessary.

Heated air expelled outside through single vent. Units can be enclosed or "buried"

Air-cooled Onan Electric Plants can now be installed in small, enclosed compartments; in isolated or underground rooms; or "buried" within a vehicle, far from the outside air. Previously impossible or difficult installations are now easy and practical with Onan Vacu-Flo cooling.

This exclusive system is a factory-equipped item, optional on any Onan air-cooled electric plant. A quiet-running, centrifugal blower in a specially-designed housing PULLS cooling air through the generator and over the engine . . . then EXPELS heated air through a duct to the outside.

The space required in a "buried" installation need be only a little larger than what the unit itself requires. Air-intake and vent openings plus an exhaust line are all that are necessary.

On vehicles such as trailers, display vans, fire and rescue trucks, and concession wagons, Vacu-Flo cooling makes it possible to mount the Onan plant anywhere in the body where space is available. On pleasure and work boats, Vacu-Flo cooling makes below-deck installations of air-cooled electric plants practical . . . cooling efficiently and quickly eliminating fumes from the area.

Onan Electric Plants with Vacu-Flo cooling operate more quietly than blower-cooled models . . . an important added advantage in many installations.

Write for Special Vacu-Flo folder.

D. W. ONAN & SONS INC.

Onan ELECTRIC PLANTS

2720 University Avenue Southeast, Minneapolis 14, Minnesota

THE RECORD REPORTS

(Continued from page 304)

the seat vacant since the death of O. L. Canfield. George H. Miehls, it was also announced, was re-elected president of the firm and appointed to fill the new post of Chairman of the Board. Other officers are: Sheldon Marston, executive vice president; R. E. Linton, treasurer; G. K. Scrymgeour, secretary; and Sol King, Saul Saulson, R. E. Linton, G. K. Scrymgeour, G. W. Whittaker and V. C. Wagner, vice presidents. The firm is located at 345 New Center Bldg., Detroit 2.

• Lawrence Grant White and James Kellum Smith, principals in the firm of McKim, Mead & White, have announced that Eric Kebbon and Edwin B. Olsen have been made associates in the firm. Offices are at 101 Park Ave., New York 17, N. Y.

• Wimberly and Cook, A.I.A., and Paul D. Jones, Associate, announce that George Whisenand, architect and engineer, has joined the firm. They also announced that John Lau has been promoted to chief draftsman. The firm is located at 315 Royal Hawaiian Ave., Honolulu 15, T. H.

New Addresses

Brandhorst & Leadholm, Architects, 7600 W. Highway No. 7, Minneapolis 26, Minn.

William N. Denton Jr., A.I.A., and Wilson and Denton, Architects, 1300 Connecticut Ave., N.W., Washington 6, D. C.

William W. Landsberg, A.I.A., 921 Port Washington Blvd., Port Washington, N. Y.

Samuel Arthur Lichtmann, Architect-Engineer, 134 S. La Salle St., Chicago 3, Ill.

Albert P. Nucciarone, Architect, 308 Main St., Metropolitan Bldg., Orange, N. J.

S. C. Smiley & Associates, Architects, 1750 Hennepin Ave., Minneapolis 3, Minn.

Charles Edward Stade & Associates, Architects; M. Dolan and H. Anderson, Associate Architects, 819 Bussee Highway, Park Ridge, Ill.

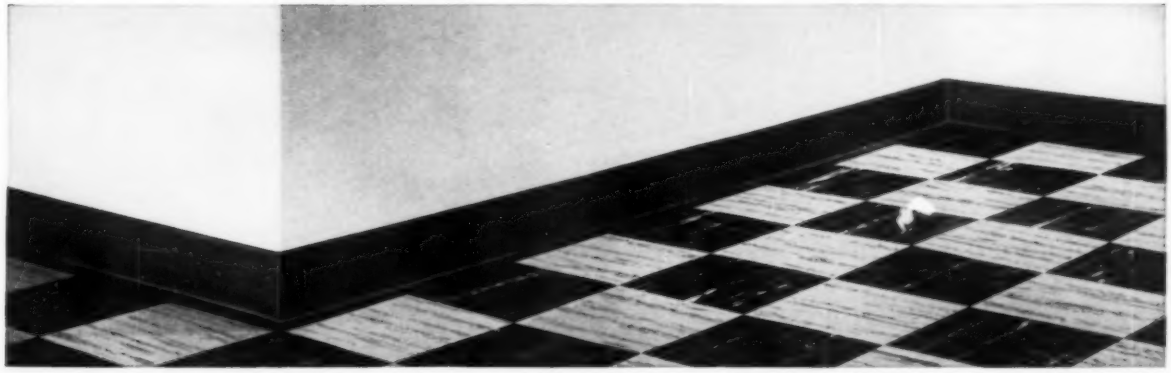
Ralph Stoetzel, Architect and Engineer, 105 W. Monroe, Chicago.

John Carl Warnecke, A.I.A., 111 New Montgomery St., San Francisco

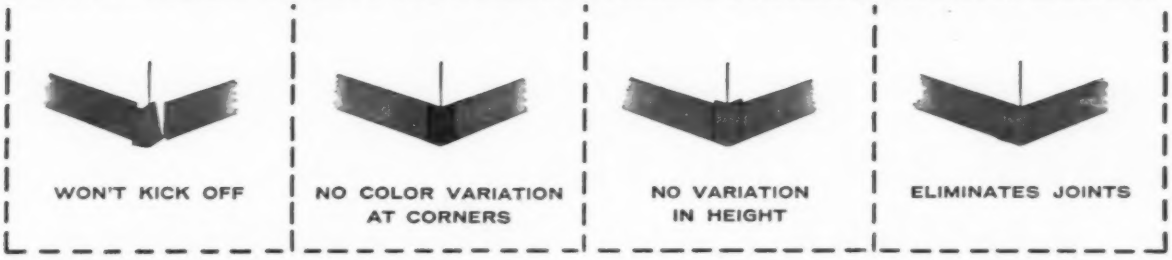
Oscar F. Wiggins, Architect, 11 W. 42nd St., New York 36, N. Y.

NEW KENCOVE VINYL BASE INSTALLATION METHOD

Provides neater, better looking corners



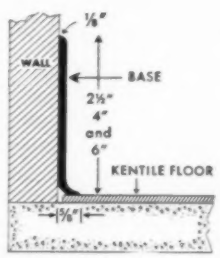
KENCOVE VINYL BASE CORNERS GIVE YOU THESE ADVANTAGES OVER PRE-FABRICATED CORNERS SHOWN BELOW



New KenCove Vinyl Base installation method allows mechanics to mold corners right on the job. The cost is less than prefabricated corners with short 2" and 3" wings which do not allow adequate surface contact for the adhesive. 48" KenCove molded around inside or outside corners allows maximum contact surface. Rubber base cannot be molded without scoring which weakens it, and its factory-made corners seldom fit the irregular and off-plumb corner sizes found on the job. KenCove vinyl base resists scuffing, cleans easily, does not show mop marks.

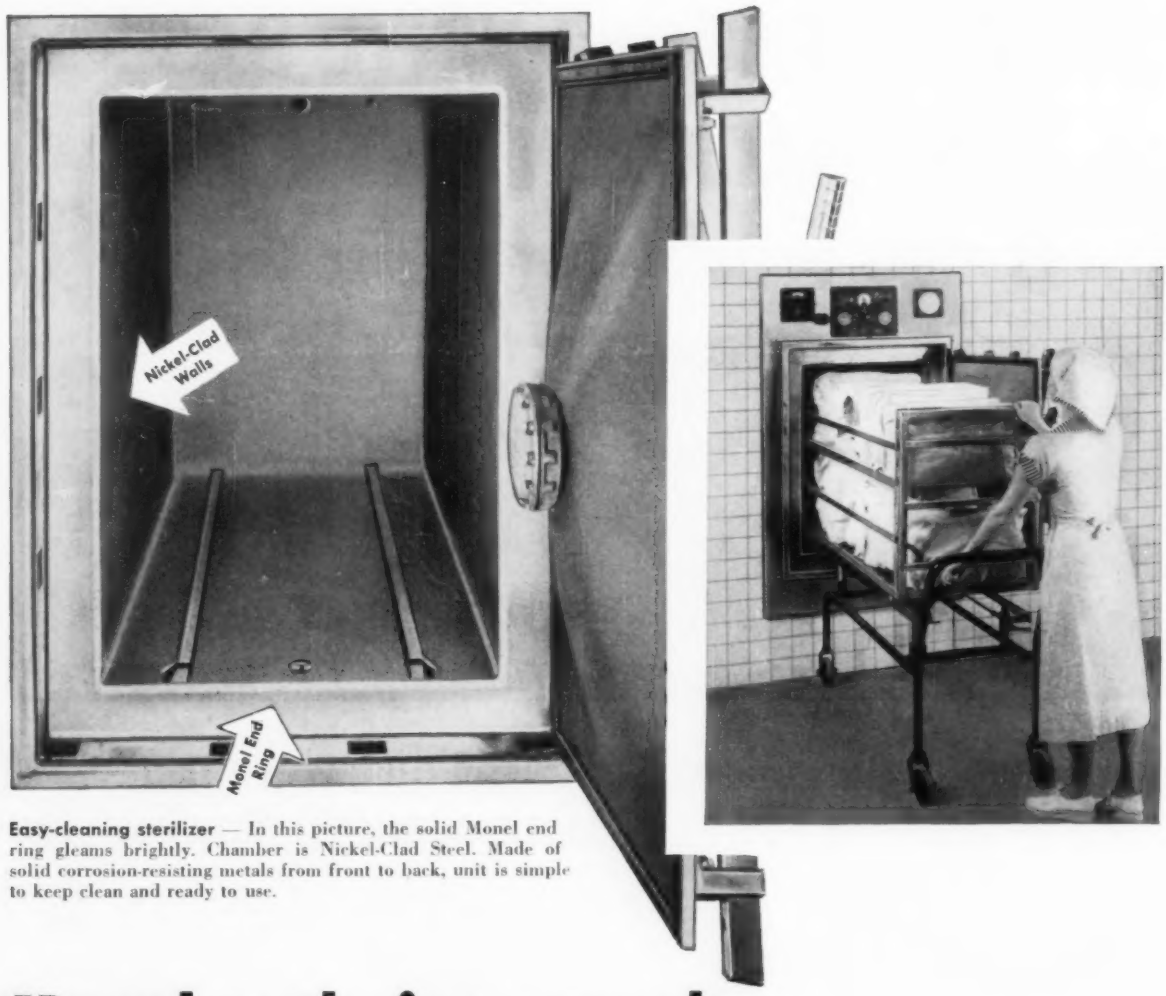
ASK FOR A FREE DEMONSTRATION from your KENTILE Sales Representative. Contact any of the offices listed below:

KENCOVE SPECIFICATIONS



KenCove Vinyl Wall Base, as made by Kentile, Inc., top set type, ribbed back, ⅛" thick, (2½" high) (4" high) (6" high), rounded top, ⅝" wide at bottom; colors (Sumac Red) (Black) (Brown) (Gray) (Green). Inside and Outside Corners to be molded on the job from KenCove Wall Base. Adhesive: KenFast No. 2 Adhesive as made by Kentile, Inc. for base.

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Easy-cleaning sterilizer — In this picture, the solid Monel end ring gleams brightly. Chamber is Nickel-Clad Steel. Made of solid corrosion-resisting metals from front to back, unit is simple to keep clean and ready to use.

Monel end ring guards American's new bulk sterilizer...

Teams up with Nickel-Clad chamber for complete protection against corrosion

If there's one place on a sterilizer that really takes a beating, it's the end ring.

Loading racks and trays jar it. The door closes on it. Locking arms press against it. It endures heat, pressure, corrosive attack.

But this is American Sterilizer Company's new M. E. sterilizer. That means the end ring is Monel* nickel-copper alloy. So it is hard and tough. It stays bright and attractive. Looks as efficient as it is.

Sterilizer sealed against corrosion

American welds the long-wearing Monel end ring to a sterilizing chamber of Lukens Nickel-Clad Steel. Both metals are outstanding for resistance to corrosion by steam, saline and other hospital solutions.

Less work for the staff

These sterilizers are easy to clean. Soap and water or common abrasive cleaning powders keep these sturdy metals bright.

Want more information? Write American Sterilizer Company, Dept. 7-12N, Erie, Pa. They'll gladly send you the catalogue of their new M. E. Series sterilizers.

*Registered trademark

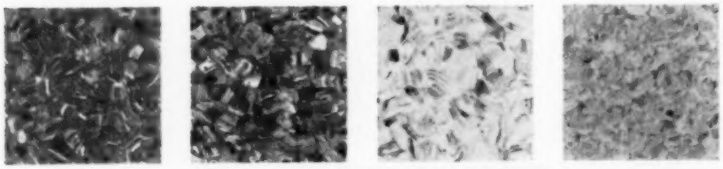
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INCO Nickel Alloys

Nickel-Clad and Monel sterilizers... long life, easy to care for



"Agatine" reflects the beauty and convenience of today's advanced kitchens.



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B.F.Goodrich

Agatine

At last—a floor tile that combines quiet, comfort and beauty with extreme ease of maintenance!

Nowhere else will you find a floor tile with all the features of "Agatine"—the tile that earns its place in today's most advanced kitchens. Made by an exclusive B. F. Goodrich process, this tile gives you all the quiet and comfort of rubber, amazing ease of cleaning, a design that actually hides footmarks! "Agatine" is a *super-dense* composition of tiny gems of color. The non-porous surface will resist dirt, nicks and scuffs; a minimum of waxing preserves its lustrous factory finish. Even with the heaviest foot traffic "Agatine" will outlast the building!

"Agatine" can be installed on or above grade, over wood or concrete — with or without radiant heating. 9" x 9" tiles come in 16 colors — .80 gage (for homes and light traffic areas) and ⅛" (for commercial use).

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FOR SPECIFICATIONS:

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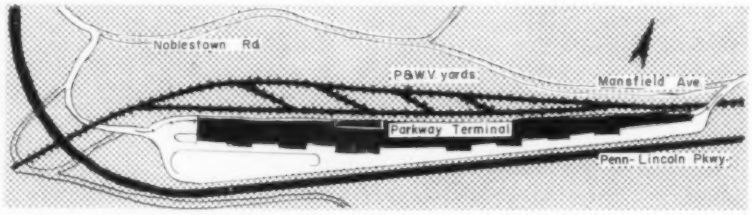
THE RECORD REPORTS

(Continued from page 308)



INDUSTRIAL DEVELOPMENT PLANNED FOR LIMITED SITE

Favored by its adjacency to rail and highway facilities, the site for the projected Parkway Terminal near Pittsburgh was nonetheless complicated by its dimensions and its "gulley-like" terrain.

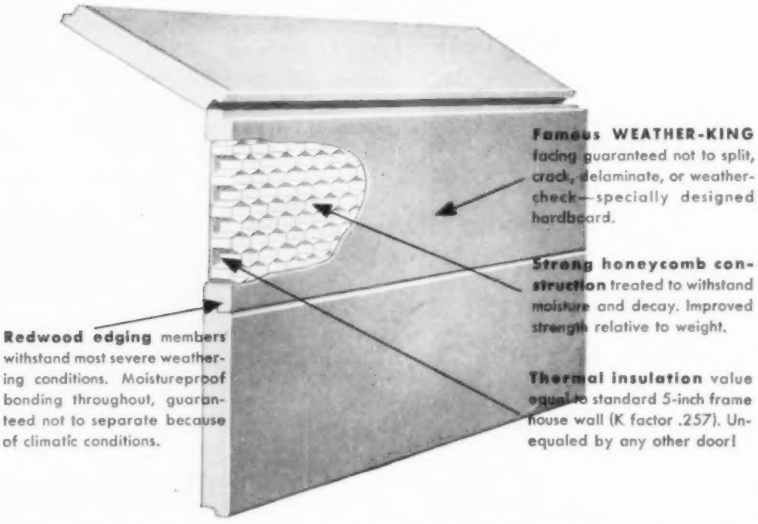


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now feature weatherproof flush sections with house-wall insulation value!



Now *a flush* door guaranteed against weather and with the insulating properties of a standard house wall! Combines with Barcol cam action snug closing to improve year-round comfort, cut cooling and heating costs.

Moistureproof, decayproof, verminproof, and fire-resistant, WEATHER-KING flush sections free architect, engineer, and builder from practically all limitations on use of attractive flush doors for residential, commercial, and industrial jobs. Yet the price is actually less than for most hollow-core doors! Shadow box window inserts and "*Door*naments" can be used as with any flush door. Call your Barber-Colman distributor (under "Doors" in phone book) or write:

Barber-Colman Company

Dept. P66, Rockford, Illinois

The architects, Kuhn & Newcomer and Schell, Deeter and Stott, drew cross-sections at 100-ft intervals to establish the relationship of highway to railroad and of both to the site. The project which resulted was a single structure, four-fifths of a mile long, which will house about a dozen plant-warehouses. Office space will be provided in the main building and in smaller office buildings placed at regular intervals along the building. Businesses will hire space as they need it — dividing it, as the developers put it, "into sections like a shopping center."

The architects also worked in cross-section to establish ramp slopes and building depth, both determined by the fact that all of the floors were to be accessible to truck traffic; parts of the building will be two stories, other parts three stories, high. The cross-section studies also enabled the architects to minimize ground removal and fill.

The building will be constructed of reinforced concrete, and will support a roof specially designed to accommodate a roadway and parking space for 2500 automobiles. Another parking lot, on the ground, will handle 500 cars.

The main office building, which will be free standing, will have a light steel frame with an aluminum panel curtain wall. Circulation and utility towers, to be located at each end of the building, will be connected with the roof parking space by pedestrian bridges. Stairs and elevators in the small office buildings will also afford access to the roof.

Additional services to be provided at the site will include a cafeteria-restaurant, auditorium, medical clinic, bank and service station.

The terminal, which is being built at a cost of about $30 million by the Parkway Terminal Company, is intended for rental to warehouses and light manufacturing firms. Occupancy is scheduled for early this year.

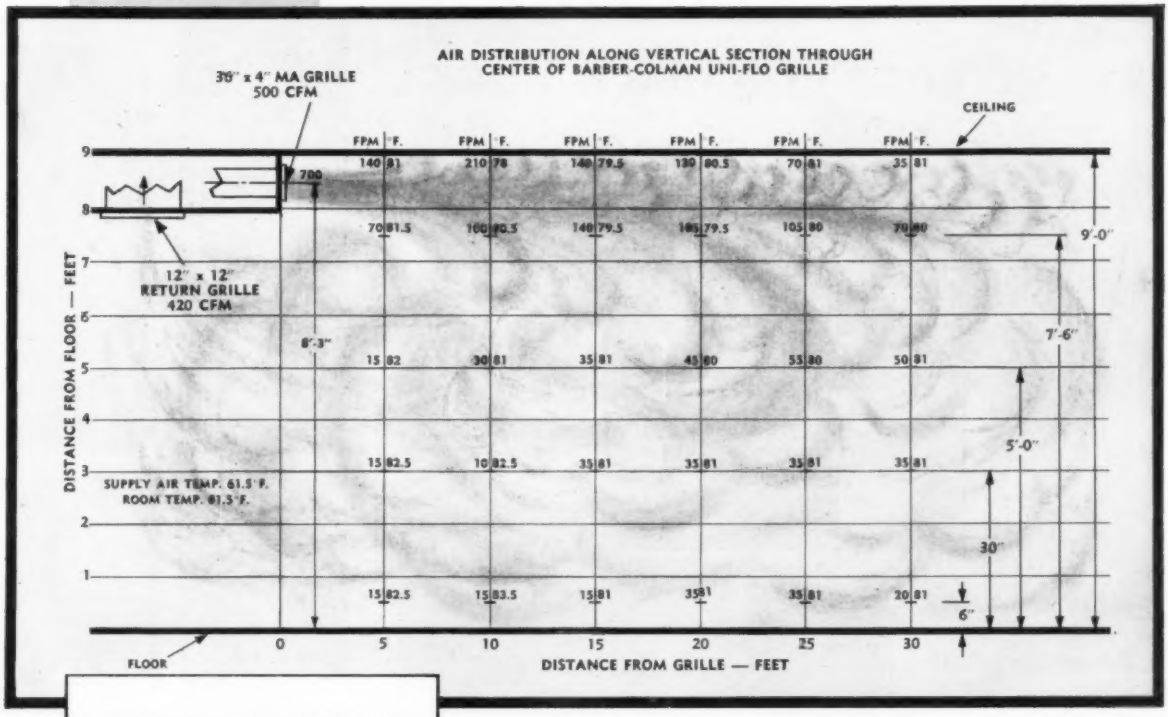
THE MARK OF QUALITY

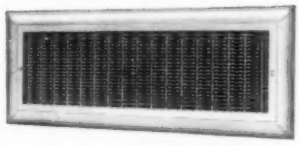
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uni-flo

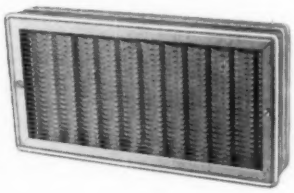
Engineered Air Distribution

predict and deliver air patterns like this...





Model MA
Double-Deflection Grille



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Precision distribution of conditioned air from sidewall grilles is no problem when you specify Uni-Flo. Uni-Flo Grilles are true sidewall diffusers, designed to give adjustable air pattern and rapid diffusion without air stream drop or excessive air motion. Laboratory-tested, field-proved performance data permit the engineer to create required conditions without guessing. Variety of types available. For complete details, call your nearby Barber-Colman Field Office, or write . . .

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THE RECORD REPORTS

A SPECIAL REPORT

(Continued from page 16B)

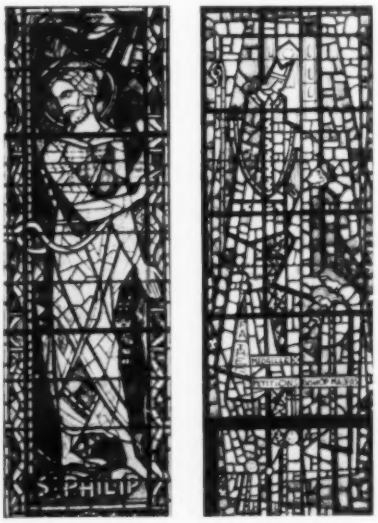
poured a metal alloy casting around glass.

Working with the glass itself, some studios have tried fusing chipped glass on plain glass to achieve a richer texture; others have sandblasted the glass, sometimes have carved *and* sandblasted it, and accented it with gold and silver leaf. Commercial glass — glass blocks and fluted glass, for example — has also been used

Experimentation continues also on the older methods. Among the attempts to improve upon the traditional product: Burnham studio says that it is always experimenting with new methods of painting glass, and Blum studio reports new techniques in bracing windows to eliminate bulges after installation. In addition, some studios said that, especially in contemporary design, they have had to exercise particular care in the selection of materials, and have often had to devise new techniques for handling the job.

In learning about new materials, many studios of course carry out experimentation in their own studios: Winterich reports 110 hours spent each month on experimental work. Learning about the work of others in the field also provides stimulation, of course, although Pike studio complains that there is not nearly enough exchange of

(Continued on page 318)





Top: left, from Messrs. Reynolds, Francis & Rohnstock, Boston; right, Pittsburgh Stained Glass Studios. Bottom: left, Orco, Inc., San Antonio; right, Novello Art Glass Studios, Winona, Minn.

TULSA COUNTY COURT HOUSE

Tulsa, Oklahoma



ARCHITECTS

Black & West

28 Balanced Doors in the entrances to Tulsa County Court House.



more . . . . Ellison doors



The Door that lets TRAFFIC through QUICKLY

ELLISON BRONZE CO.

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representatives in 77 principal cities in the United States, Canada and Puerto Rico

Ellison the BALANCED DOOR



This brand name also brings you...

West Coast Hemlock

An ideal lumber for framing and sheathing

● In the Pacific Northwest grows a species of Hemlock that is superior to Hemlocks grown elsewhere in its yield of high quality, multi-purpose lumber.

To the natural superiority of this West-grown species, extra values are added by Weyerhaeuser processing. Through careful selection and logging ... forest products research ... modern milling equipment ... scientific seasoning ... our mills produce a wide variety of fine Hemlock lumber items.

Weyerhaeuser 4-Square West Coast Hemlock dimension is excellent for framing because it is strong and stiff. The stress grades of Hemlock dimension include 1600 f Select Structural, 1450 f No. 1 and 1100 f No. 2.

Boards of Weyerhaeuser 4-Square West Coast Hemlock are good sheathing items and serve dependably and economically for a wide range of other uses.

Weyerhaeuser 4-Square Hemlock is easily worked. It is relatively light in weight. It saws cleanly, fits precisely ... sands, drills, fastens and glues exceptionally well. It has unusual nail-holding power and nails securely with a minimum of splitting.

West Coast Hemlock is available in a broad choice of finish and common lumber items through Weyerhaeuser 4-Square Lumber Dealers. Descriptive literature will be mailed on request.

Weyerhaeuser Sales Company

ST. PAUL 1, MINNESOTA

OPERATION HOME IMPROVEMENT '56 the year to FIX

MODERN BUSINESS



AND MODERN SCHOOLS



NEED EACH OTHER MORE THAN EVER!

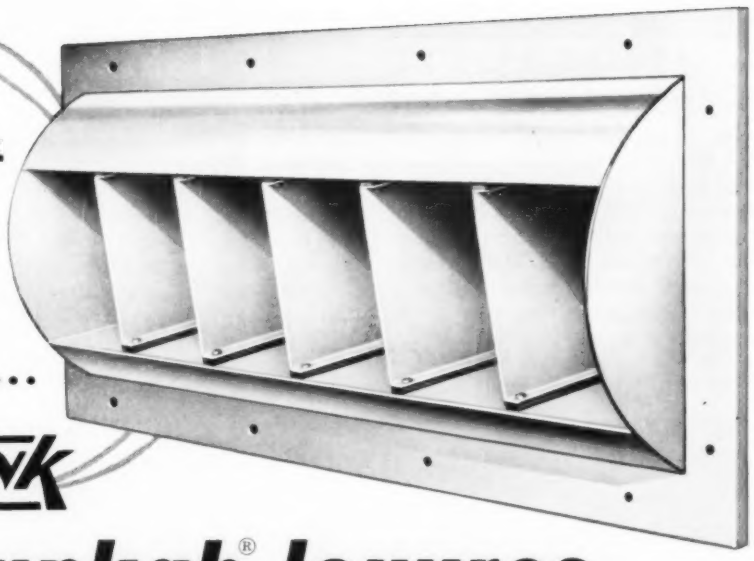
This has been a great year! America is building and replacing and thus moving faster than ever before.

Only one thing. Will the labor market keep pace? That's where schools are important. If your company isn't helping community groups to get modern schools, it's not apt to get the skilled people it needs. Self interest, civic spirit, or both, you should make schools your business, too.

PUBLIC SERVICE · ADVERTISING COUNCIL

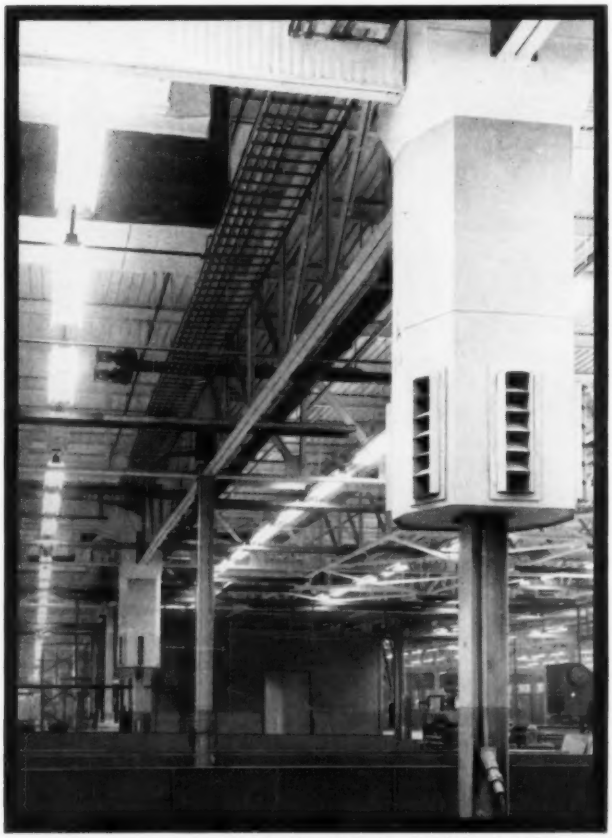
Want to find out how to help in *your* community?
Get specific information by writing:
Better Schools, 9 East 40th Street, New York, N. Y.

FOR DIRECTIONAL CONTROL, LONG THROW, HIGH OUTPUT IN AIR DISTRIBUTION...



THERMOTANK

drum punkah® louvres



Architect: Albert Kahn Associated Architects and Engineers
General Contractor: Darin & Armstrong, Inc.

FORD MOTOR COMPANY—Sterling Township Machining Plant—Northeast of Detroit
In this new factory, the most advanced of its kind in the world, 500 *drum punkah louvres*, each handling 3,300 C.F.M., have been installed vertically on hexagonal supply plenums. Thousands of these louvres are being installed in other industrial plants throughout the country.

drum punkah louvres have been used for many years in a wide range of commercial and industrial applications and are finding increasing popularity in modern factories where large areas have to be served with a minimum of ductwork.

ADJUSTABLE DRUM AND VANES

The adjustable drum permits variation of the air stream centerline through an included angle of 60°. This feature, combined with adjustable vanes, gives complete directional control of air distribution. The *drum punkah louvre* may be mounted horizontally, or vertically as shown at the left.

HIGH CAPACITY

High outlet velocity combined with large free area gives exceptional capacity for its size.

THROW AND ENTRAINMENT

The unusually long throw of this unit reduces the amount of branch ducting normally required. High entrainment of secondary air assures thorough mixing of supply air with room air.

For performance data and range of sizes, write or mail coupon.

THERMOTANK
INCORPORATED
PRODUCTS DIVISION
11191 LAPPIN AVENUE
DETROIT 34, MICHIGAN



THERMOTANK, INC.
11191 Lappin Avenue, Detroit 34, Mich.

Please send me your informative brochure, DPL-7, on *drum punkah louvres*.

Name_____

Organization_____

Address_____

City_____ Zone _____ State_____

THE RECORD REPORTS

A SPECIAL REPORT

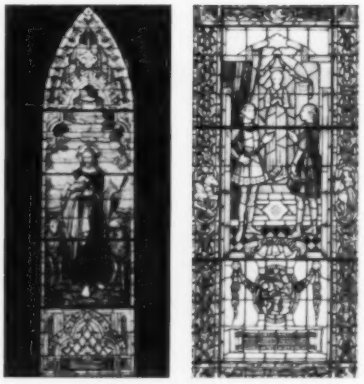
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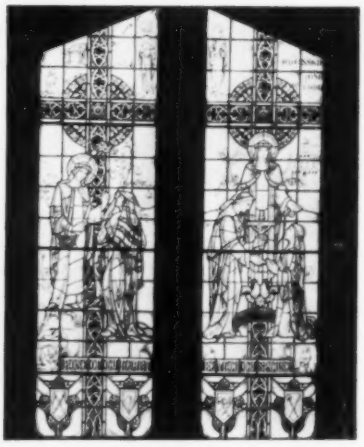
such information among members of the Association. Still other studios said that they learned of new materials and techniques from force of necessity in solving new problems — and more than one studio said rather wistfully that they would welcome such problems.

On the subject of cost, most of the respondents agreed that this had increased over the last ten years, although they could not agree on how much prices had gone up. The range of estimates was from no increase to a 150 per cent increase; six studios guessed that prices had gone up 10 to 20 per cent, seven thought about 50 per cent, and six others thought 100 per cent. Practically all of the increase has gone into higher wages; materials costs, said one studio, have been "pretty stable." The one studio reporting no increase in cost explained that "in our instance we

(Continued on page 322)







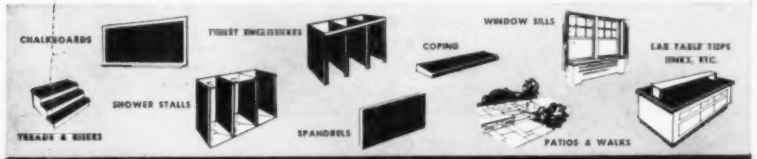
Top: left, from studio of Edward W. Hiemer & Co., Clifton, N. J.; right, from Henry Hunt Studios, Pittsburgh. Center: left, from Blum Ornamental Glass Co., Inc., Louisville, Ky.; right, from Jacoby Art Glass Co., St. Louis. Bottom: Henry Keck Studios, Syracuse, N. Y.



Slate Chalkboards Are Standard Equipment At Brooklyn, New York's Ultra-Modern General George W. Wingate High School . . . the "Banjo-Type" School . . . One Of The Many Modern Schools Specifying Slate Chalkboards.

KELLY & GRUZEN Architects - Engineers

Of all chalkboards, slate communicates best. White chalk on slate produces the desired high contrast to permit the student to grasp the written message instantaneously! The writing surface of slate, too, is so superior that it is the standard to which the writing qualities of all other substitutes are compared! Easy to clean . . . virtually indestructible . . . slate is lowest in maintenance costs under normal usage conditions. For timeless beauty and durability, compare before you install . . . inquiries welcomed on specific properties of slate.

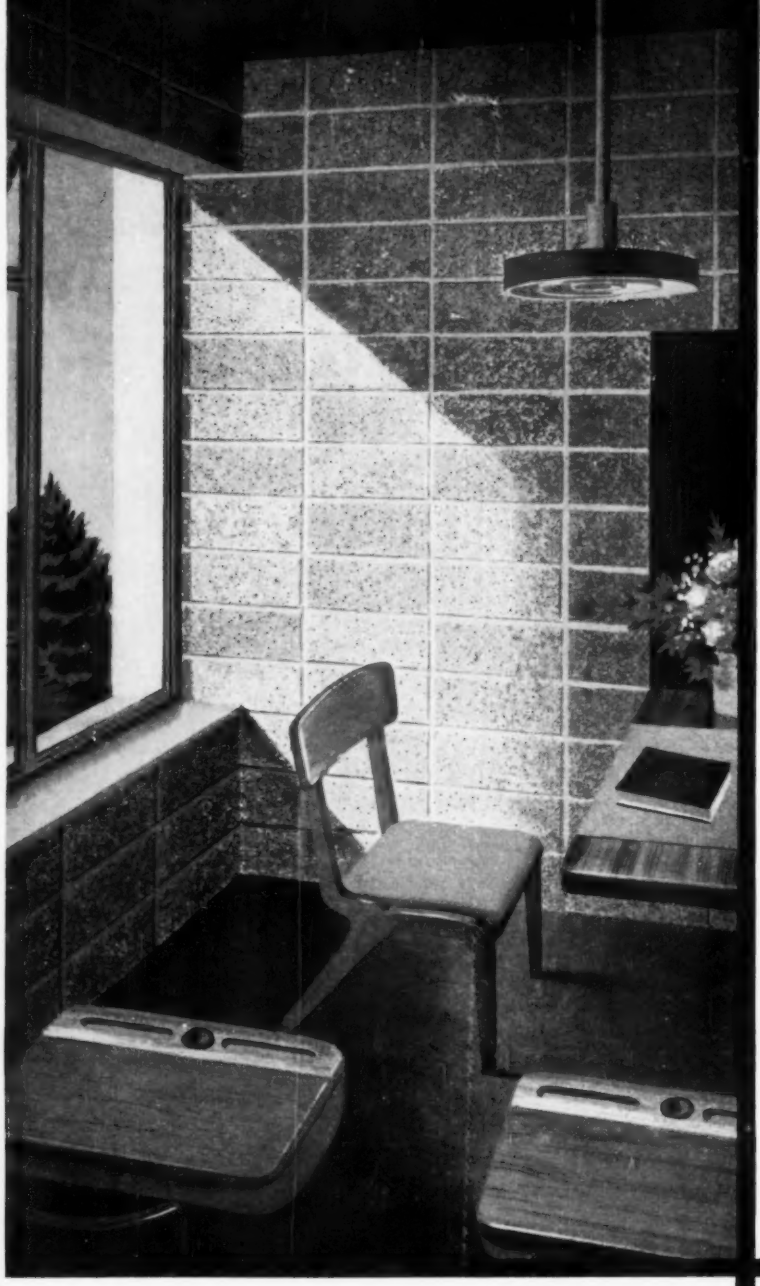


For Your Protection . . . Insist on Slate Quarried in Pennsylvania, U.S.A.

NATURAL SLATE BLACKBOARD CO.
STRUCTURAL SLATE CO.
PEN ARGYL PENNSYLVANIA



natural slate . . . 500 million years in the making



A WAYLITE SURFACE

needs no acoustical treatment

In addition, it has high thermal insulative qualities . . . offers many decorative possibilities . . . it is low in cost . . . fire-safe

A large number of schools are being built these days of Waylite concrete masonry units.

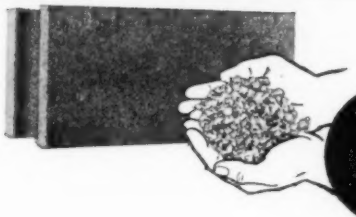
The fact that the exposed surface of Waylite is one of the most efficient acoustical treatments known is in part responsible. Rooms that are comfortable to the ear are equally important in churches, auditoriums, offices, and many other structures.

Exposed Waylite is not only comfortable to the ear, but it is pleasing to the eye. The unit patterns shown give some idea of the varied decorative effects that can be easily achieved. The natural surface of Waylite units is attractive in color and texture. Units may be painted—or pigmented during manufacture.

Waylite concrete masonry units are structurally adequate and give a combination of four important factors: (1) high thermal insulative qualities; (2) excellent acoustical values; (3) a wide range of decorative possibilities; (4) low in cost—and fire-safe.

You will find 24 pages of engineering data on Waylite in Sweet's Catalog. Additional information is available on request. Address the Waylite Company, 20 North Wacker Drive, Chicago, Illinois or Box 30, Bethlehem, Pennsylvania.





WAYLITE

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Examine the items offered on the opposite page which relate to *your* advertising and sales objectives—then circle the related key numbers on the coupon provided at the bottom of the page and mail to us today.

* In 1955, 73% of all advertisers in one or more of the three leading architectural magazines advertised in Architectural Record. Architectural Record had . . . • 24% more advertisers than the second magazine • 57% more exclusive advertisers • 30% more advertising pages.

In the first quarter of 1956 building product manufacturers and their advertising agencies placed 783 pages of advertising in Architectural Record, an all-time high for architectural magazines. And Architectural Record extended its advertising page lead over the second-place magazine to 44%.

F.W. DODGE CORPORATION

Architectural Record

"workbook of the active architect and engineer"

119 West 40th Street, New York

If you are interested in the building market and the reasons why year after year—and increasingly in 1956—more building product manufacturers are placing more advertising pages in Architectural Record than in any other architectural magazine, we will gladly send you by return mail any of the following market and media data. Just circle the key numbers (AR 1, AR 2, etc.) of the items you want *on the coupon below* and mail to Architectural Record.

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Architect and Engineer Circulation

AR 8 Comparative architect and engineer circulation, three leading architectural magazines.

AR 9 Publisher's Statement (Audit Bureau of Circulations).

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☐ After I've had an opportunity to review the above items, please have your representative contact me in case I have any questions.

Name _____

Title _____

Company _____

Address _____

THE RECORD REPORTS

A SPECIAL REPORT

(Continued from page 318)

have tried to refine and better our process to meet the higher wage scale."

A stained glass window could cost anywhere from $15 to $200 per sq ft. The average estimate made by the studios, asked to give an approximate minimum sq ft cost for a "high quality" window, was $45. This, however, is a

(Continued on page 326)



Window for Evangelical Lutheran Church Headquarters from Conrad Pickel Studios, Inc.

When the *PRESSURE'S ON*



When the pressure's on and you need color plans or painting specifications in a hurry call your Pratt&Lambert representative!

He is an experienced architectural consultant — trained to cooperate personally and promptly in developing complete color plans and painting specifications.

His color plans and specifications will be realistic and practical — in keeping with the results *you want* and *consistent with the project and budget.*

For color planning assistance, information about new products, answers to painting problems — your Pratt & Lambert Representative can give you reliable help. Write your nearest Pratt&Lambert Architectural Service Department: 3301 38th Ave., Long Island City 1, N. Y.; 75 Tonawanda St., Buffalo 7, N. Y.; 326 W. 26th St., Chicago 16, Ill.; 254 Courtwright St., Fort Erie, Ontario.

REGISTERED PL TRADE MARK

PRATT & LAMBERT-INC.

A Dependable Name in Paint since 1849

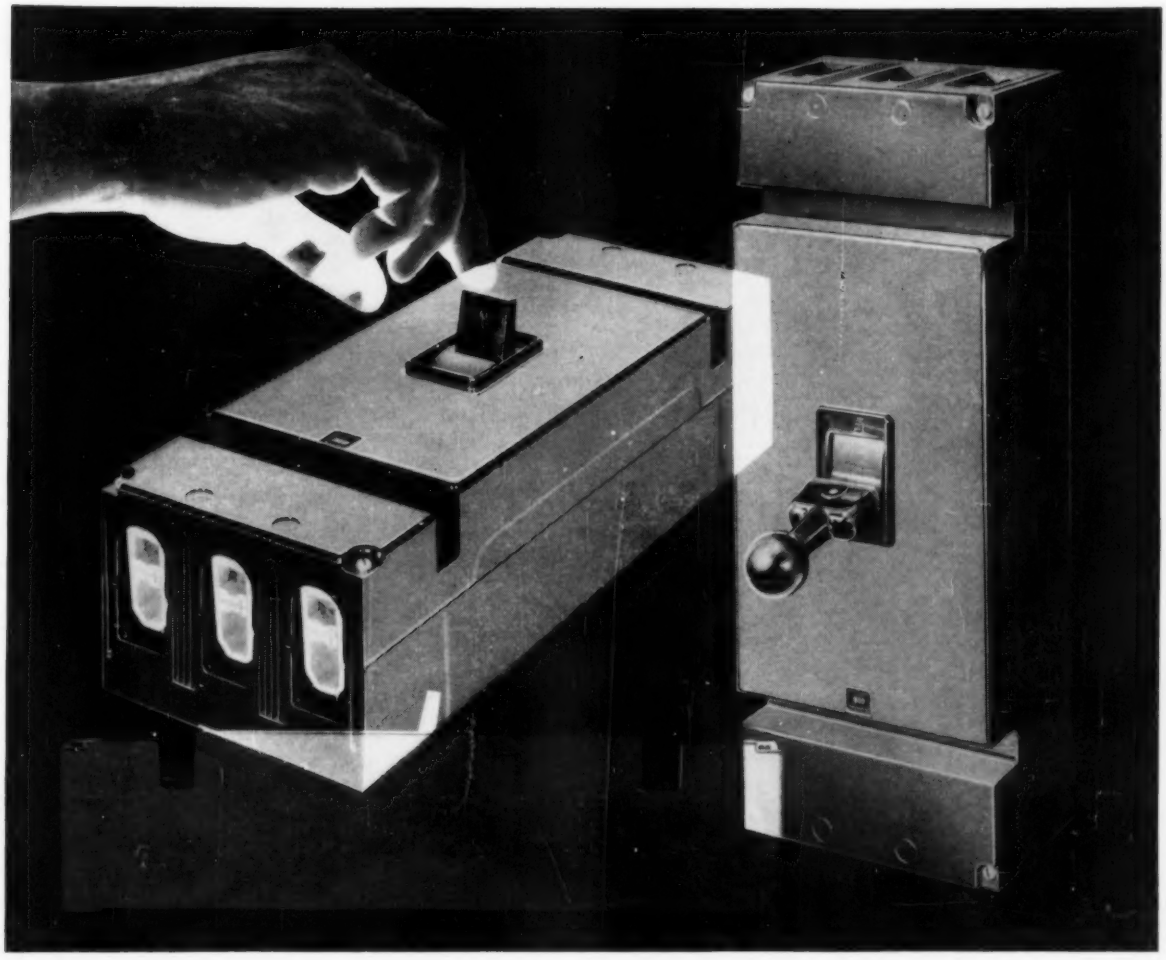
NEW YORK • BUFFALO • CHICAGO • FORT ERIE, ONT.







Top: from the Payne Spiers Studios Inc., Paterson, N. J. Center: from Winterich's, Cleveland. Bottom: from the Judson Studios, Los Angeles.



The Westinghouse Type M—only fully rated 800-ampere, molded-case circuit breaker . . .

Saves 3/4 cost of larger devices

Over a year of customer use, as an alternative to larger 800-ampere protective devices, has proved the economical advantage of the Westinghouse Type M AB De-ion® circuit breaker.

Whether you use it singly enclosed or in a switchboard, you'll find it can save ¾ the cost of a larger air circuit breaker. Space or mounting economies may run the savings even higher—such as the use of this design in building compact distribution panelboards.

Though the smallest device of its rating, the new model will carry its full current rating in normal ambients even when enclosed—something other thermal devices cannot do. This feature of ambient compensation is useful in applications where standard units might unduly penalize system capacities. Both the Westinghouse *true 800-ampere* alternate and the standard thermal magnetic trip types are U.L. listed.

You owe it to yourself to get all the facts on the Westinghouse Type M circuit breaker. Get 'em today from your local Westinghouse sales office—or write direct to Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pa.

J-30214

WATCH WESTINGHOUSE!

*WHERE **BIG** THINGS ARE HAPPENING FOR **YOU***

"Little brown church in the vale"
...*modern version*



Heated radiantly with Steel Pipe

For this widely publicized community church, built for a total of only $67,000, steel pipe radiant panel heating fitted the budget and the heating requirements perfectly.

The simple beauty and dignity of an interior unmarred by exposed heating elements, and the all-purpose flexibility made possible by sliding walls, governed the selection of "invisible" radiant heating. The known economy and durability of steel pipe for heating made *it* first choice.

Yes, steel pipe has been proved in more than 60 years of hot water and steam heating applications. It still is the most widely used pipe in the world for radiant heating, snow melting, plumbing, fire sprinkler systems, structural applications, air, gas and water lines!

Write for the free 48-page color booklet, "Radiant Panel Heating with Steel Pipe."

Committee on
STEEL PIPE RESEARCH
AMERICAN IRON AND STEEL INSTITUTE
350 FIFTH AVENUE, NEW YORK 1, N.Y.

Steel Pipe is First Choice



OFFICE BUILDINGS

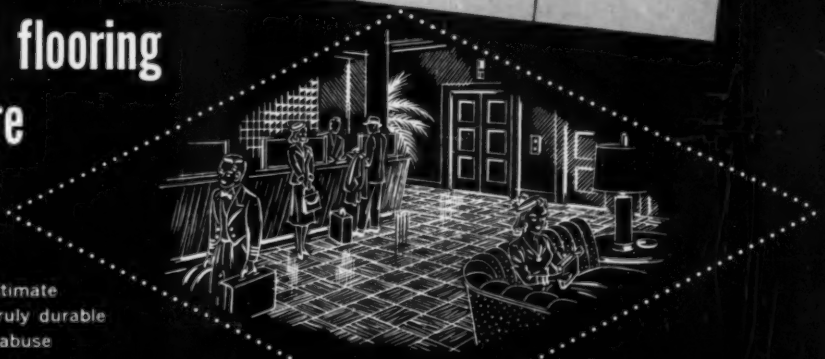
when traffic is heaviest



SCHOOLS

WRIGHT

VINYL TILE flooring gives years more care-free wear!



HOTELS

WRIGHT Vinyl Tile provides the ultimate in rugged serviceability. Here is truly durable tile flooring, resisting the hardest abuse from scratches, scuff marks, stains. Acids, alkalis, and grease are quickly removed from its water-proof, non-slip surface. Impervious to temperature change, it will not warp, buckle or crack. Maintenance is easier, more economical too, than with any other type of resilient tile flooring.

Completely homogeneous, WRIGHT vinyl meets the most exacting quality control specifications. Its smooth, even surface never loses its brilliance, and the deep, clear colors retain their full richness even after years of wear.

For your next installation, look into the advantages of this beautiful and practical flooring.

WRIGHT MANUFACTURING COMPANY
Div. of Mastic Tile Corporation of America
Dept. W8-6, P. O. Box 986, Newburgh, N. Y.

Please send me full details on WRIGHT Vinyl Tile and WRIGHT Rubber Tile

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WRIGHT MANUFACTURING COMPANY Division of Mastic Tile Corporation of America
Houston, Texas • Joliet, Ill. • Long Beach, Calif. • Newburgh, N. Y.
Asphalt Tile • Confetti • Aristoflex • Maticork • Parquetry • Rubber Tile • Vinyl Tile • Cork Tile • Plastic Wall Tile

THE RECORD REPORTS

A SPECIAL REPORT

(Continued from page 322)

very rough estimate, since most of the respondents hastened to say that the complexity of the design is *the* determining factor. The size of the window also would seem to affect the cost, with the sq ft cost decreasing somewhat on large windows.

Linked with the cost problem is the craft's worst headache at the moment — competition from foreign studios. There seems to be little disagreement among the studios that the lower wage scale in European studios gives them a competitive advantage; the respondents estimated that American glass costs from 10 to 200 per cent more than imported glass. Several of the American studios thought, however, that it is in the area of cheaper glass that the imports have the advantage, and that the difference tends to disappear in the high cost brackets. One studio, how-

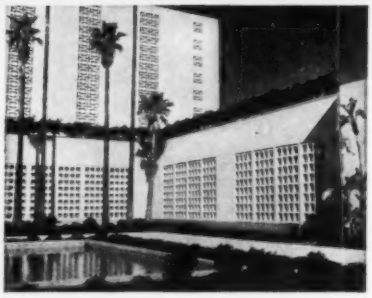
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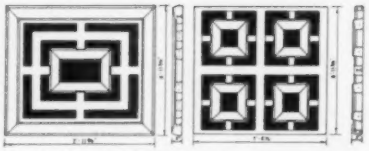




Top: window for Christ the King Seminary Chapel, St. Bonaventure, N. Y., from the studio of George Durhan & Son, New York. Bottom: window designed by The Flemish Glazenier, Scottsdale, Ariz., for the studio's own showroom







GRILL WORK

• Church of Jesus Christ of Latter Day Saints, Los Angeles, California. Architect: Edward A. Andersen, Salt Lake City. Mo-Sai by Otto Buehner & Co., Salt Lake City.

135,000 square feet of light golden tan Mo-Sai Precast Facing cover the entire exterior surface and grills of the new Los Angeles Temple.

Mo-Sai suits the mood and sets the tone of this entire structure. Its versatility of color, texture and size provides a freedom of expression unique in architectural design.

When designing with the future in mind — consult the Mo-Sai Associate Manufacturer near you! He will supply details, specifications and samples of this versatile, economical facing material.

SWEET'S FILE 4d/Mos

MO-SAI ASSOCIATES, INC. Members, The Producers' Council

California	Los Angeles	C. D. Wailes Co.
	South San Francisco	P. Grassi-American Terrazzo Co.
Connecticut	New Haven 3	The Dextone Co.
Massachusetts	Allston 34	Cambridge Cement Stone Co.
New York	Rochester 21	Goodstone Mfg. Co., Inc.
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Ohio	Cleveland 5	George Rackle & Sons Co.
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Texas	Houston 20	George Rackle & Sons Co.
Utah	Salt Lake City 6	Otto Buehner & Co.
Virginia	Richmond 7	Economy Cast Stone Co.
Washington	Seattle 7	Olympian Stone Co.
Wisconsin	Oshkosh	Badger Concrete Co.
Canada	Toronto 13	Toronto Cast Stone Co.


This water closet does not
disturb your peace of mind
The famous Case time-tested Non-Overflow One-Piece* water closet
with the whispering flush...produced in 32 decorator colors and spark-
ling black and white. Ask your Case wholesaler or write:
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THE RECORD REPORTS

A SPECIAL REPORT

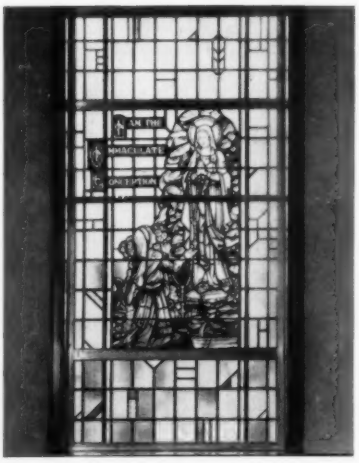
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ever, reversed this, and said that Americans could compete when the cost was near minimum, but were underbid on glass priced at more than $25 per sq ft.

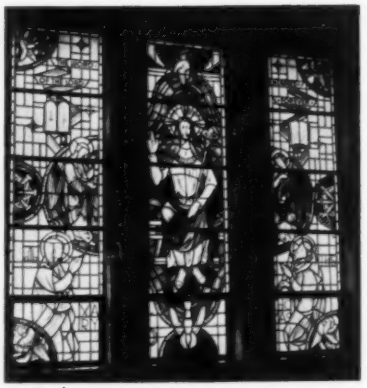
Still another problem facing the stained glass studios in this country is that of recruiting new artists and craftsmen. Since all of the studios execute their own designs almost exclusively, the situation could eventually have serious developments. The 38 respondents accounted for a total of 326 craftsmen and 44 apprentices. Of these, 21 reported difficulty in finding suitable trainees, 12 said that there was no problem, and two were uncertain.

In 1942, the Stained Glass Association, working with the union and the Government's apprentice training service, set up an apprenticeship program; now 25 of the 38 studios in the survey have such a program. Most of them

(Continued on page 332)







Top: from the Ave Maria Stained Glass Studio Inc., Brooklyn. Center: from Whillemore Associates, Inc., Boston. Bottom: from Pike Stained Glass Studios, Rochester, N. Y.



NEW LAMBERT-ST. LOUIS TERMINAL BUILDING, St. Louis, Mo.
Architects—Hellmuth, Yamasaki & Leinweber

CUSTOM-BILT BY SOUTHERN

Food service equipment designed, engineered, fabricated and installed in any type operation, expertly fitted to available space. You can depend on thorough cooperation by your Southern Dealer, from initial analysis of your food service problems through complete installation and reliable maintenance for the years to come. Get expert help with your next kitchen equipment problem or layout—call your "Custom-Bilt by Southern" dealer, or write Southern Equipment Company, 4550 Gustine Ave., St. Louis 16, Missouri.

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"CUSTOM-BILT BY SOUTHERN" DEALERS: **ALABAMA,** BIRMINGHAM—Vulcan Equip. & Supply Co.; MOBILE—Mobile Fixture Co. **ARKANSAS,** LITTLE ROCK—Krebs Bros. Supply Co. **COLORADO,** DENVER—Carson Hotel Supply. **FLORIDA,** DAYTONA BEACH—Ward Morgan Co.; JACKSONVILLE—W. H. Morgan Co.; MIAMI—J. Conkle, Inc.; ORLANDO—Turner-Haack Co.; TAMPA—Food Service Equip. & Engr. Corp. **ILLINOIS,** PEORIA—Hertzel's Equip. Co. **INDIANA,** EVANSVILLE—Weber Equip. Co.; INDIANAPOLIS, MARION—National China & Equip. Corp. **IOWA,** DES MOINES—Bolton & Hay. **KANSAS,** WICHITA—Arnholz Coffee & Supply Co. **KENTUCKY,** LEXINGTON—Heilbron-Matthews Co. **LOUISIANA,** NEW ORLEANS—J. S. Waterman Co., Inc.; SHREVEPORT—Buckelew Hdwe. Co. **MICHIGAN,** BAY CITY—Kirchman Bros. Co.; DETROIT—A. J. Marshall Co. **MINNESOTA,** MINNEAPOLIS—Aslesen Co. **MISSOURI,** KANSAS CITY—Greenwood's Inc. **MONTANA,** BILLINGS—Northwest Fixture Co. **NEBRASKA,** OMAHA—Buller Fixture Co. **NORTH CAROLINA,** ASHEVILLE—Asheville Showcase & Fixture Co. **NORTH DAKOTA,** FARGO—Fargo Food & Equip. Co. **OHIO,** CINCINNATI—H. Lauber & Co.; CLEVELAND—S. S. Kemp Co.; COLUMBUS—General Hotel Supply; TOLEDO—Rowland Equip. Co.; YOUNGSTOWN—W. C. Zabel Co. **OKLAHOMA,** TULSA—Goodner Van Co. **PENNSYLVANIA,** ERIE—A. F. Schultz Co. **SOUTH CAROLINA,** GREENVILLE—Food Equipment Co. **TENNESSEE,** CHATTANOOGA—Mountain City Stove Co.; KNOXVILLE—E. Carleton Scruggs; MEMPHIS—House-Bond Co.; NASHVILLE—McKay-Cameron Co. **TEXAS,** AMARILLO—Arnholz Coffee & Supply Co.; CORPUS CHRISTI—Southwestern Hotel Supply, Inc.; EL PASO—El Paso Hotel Supply Co.; SAN ANTONIO—Southwestern Hotel Supply, Inc. **UTAH,** SALT LAKE CITY—Restaurant & Store Equip. Co. **VIRGINIA,** RICHMOND—Ezekiel & Weilman Co. **WEST VIRGINIA,** CLARKSBURG—Parson-Souders Co. **WISCONSIN,** MILWAUKEE—S. J. Casper Co.



Kentile, Inc., Brooklyn, N. Y., features this "Corktone" Kenflex tile made of BAKELITE Brand Vinyl Resins. Firm comfort under foot, as well as noise absorption, is an important quality—in commercial buildings just as much as in homes. The vinyl resins resist stains of foods and beverages, dirt, and other soiling. Easy cleaning cuts the cost of maintenance. Long wear cuts the *entire* in-service cost. In addition to all these benefits, flooring made of BAKELITE Vinyl Resins is available in such a wide range of patterns and colors that design possibilities are virtually unlimited.

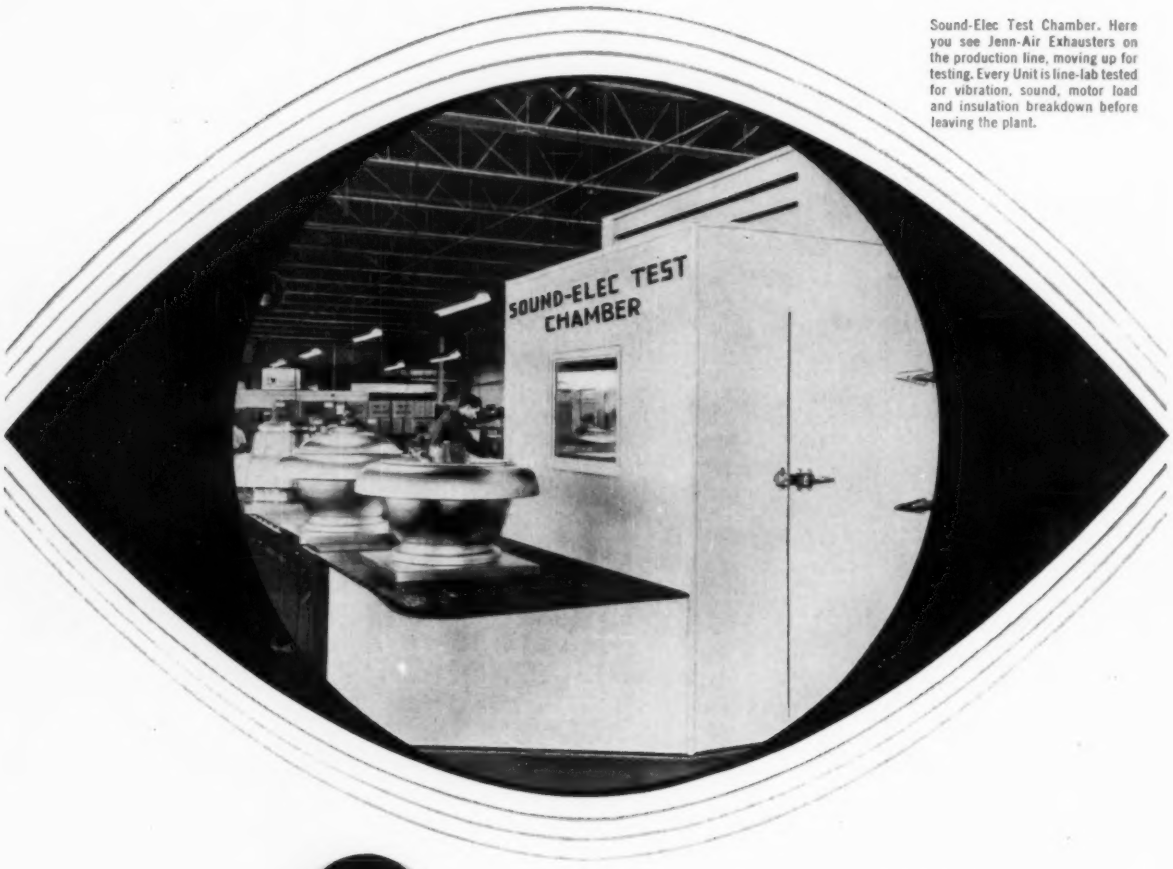
Easy on the feet... and the upkeep, too

but that's only part of the many advantages of flooring made of

BAKELITE
BRAND
Vinyl Resins

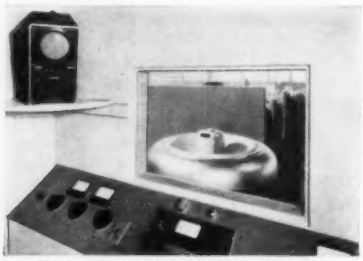
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Sound-Elec Test Chamber. Here you see Jenn-Air Exhausters on the production line, moving up for testing. Every Unit is line-lab tested for vibration, sound, motor load and insulation breakdown before leaving the plant.

THE EYE THAT SEES SOUND



This is an interior view of the Vibronic Eye Test Chamber. Through the window is shown a Quiet-tested Exhauster which has just moved into place for testing.



EXCLUSIVE JENN-AIR VIBRONIC EYE TAKES THE GUESSWORK OUT OF NOISE ELIMINATION

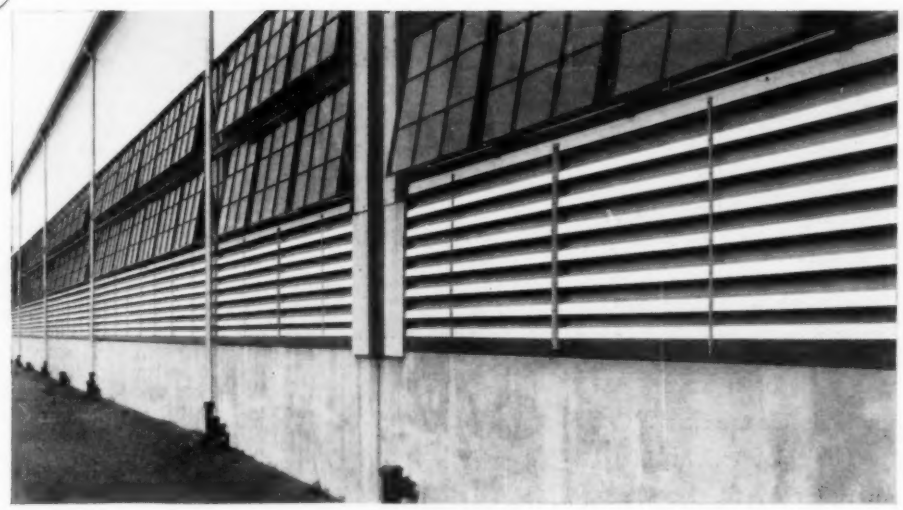
Simulated field conditions! Yes, that is what we do here in the Vibronic Test Chamber. An acceptable noise level is established for every Jenn-Air Fan by pre-testing. Each production unit is then required to meet these rigid standards. By finding the one noisy fan in a hundred, before it goes out, service calls and complaints from the job are held to a new low in the fan industry. Further tests are made for motor load and insulation breakdown. Jenn-Air Exhausters are designed on a new principle—U-springs suspend the power unit so vibration is absorbed. Motor and blade are balanced integrally as a further protection against vibration. *RESULT—The lowest noise level ever achieved in the roof exhauster industry.*

Jenn-Air Exhausters are rated in accordance with the Standard Test Code by the Texas Engineering Experiment Station.

JENN-AIR PRODUCTS COMPANY, INC.
1102 Stadium Drive Indianapolis 7, Indiana

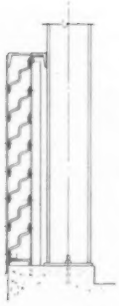
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Walls that breathe with louvers of Gold Bond Corrugated Asbestone



Sidewalls in this Alabama plant ventilate and protect at the same time. Louvers made of fireproof Gold Bond Corrugated ASBESTONE "400" form the lower sections of these unusual sidewalls and add to the general appearance of the plant, too. The diagram at the left illustrates the method used in this system. The upper walls are sided with Corrugated "400" in the traditional straight line method. Rock-like ASBESTONE needs no upkeep . . . resists weather and corrosion permanently.

How many uses can *you* think of for Gold Bond Corrugated Asbestone? Wherever you use it, you're getting lasting protection and good looks. Write for details on this versatile product. Address Dept. AR-66, National Gypsum Company, P. O. 5257-B, New Orleans 15, La.



Gold Bond Technical Bulletin No. 2032, and Booklet No. 2273 gives full specifications and uses of Gold Bond CORRUGATED ASBESTONE Products.

CORRUGATED ASBESTONE

NATIONAL GYPSUM COMPANY

Gold Bond®
BUILDING PRODUCTS

A SPECIAL REPORT

(Continued from page 328)

were started about ten years ago, although a couple of them date much farther back.

The RECORD asked the studios also whether they thought architects were sufficiently well acquainted with stained glass to use it effectively. Almost to a man they answered "No." Only one studio gave an unqualified yes. One studio, though, blamed the craft itself for this situation: "Our craft," it remarked, "has been very backward about telling the public, especially the architects, about our ability to make stained glass an integral part of . . . architecture."

Here follows a list of members of the Stained Glass Association of America, expanded by information received on the questionnaires. Unless noted, all studios are willing to accept commissions anywhere in the country.

THE FLEMISH GLAZENIER, 47 W. Fifth Ave., Scottsdale, Ariz.; est. 1952; staff of four; favor contemporary work.

AMERICAN ART GLASS CO., 7420 S. Broadway, Los Angeles.

CENTURY STAINED GLASS STUDIOS, 157 Fillmore St., San Francisco; est. 1941; staff of two; both traditional and contemporary.

CHURCH ART GLASS STUDIOS, 359 Waller St., San Francisco; est. 1915; staff of two; prefer to work in Western States; favor contemporary work.

CUMMINGS STUDIOS, 475 Francisco St., San Francisco 11; est. 1921; staff of seven; prefer to work in Western U. S.; traditional and contemporary work.

H. DOMBRINK CO., 2416 Market St., Oakland 7, Cal.

JUDSON STUDIOS, 200 South Ave. 66, Los Angeles; est. 1897; staff of 19; traditional and contemporary work.

ANTON REZ, 6046 Bellevue Ave., La Jolla.

WALLIS WILEY STUDIO, 2175 E. Foothill Blvd., Pasadena 8, Cal.

LEN R. HOWARD, Kent, Conn.

SOUTHERN ART GLASS CO., 532 Edgewood Ave., Jacksonville, Fla.

CLINTON GLASS CO., 2100 S. Union Ave., Chicago; est. 1900; staff of six; traditional and contemporary.

DREHOBL BROTHERS ART GLASS CO., 2847 Lincoln Ave., Chicago.

H. EBERHARDT & CO., 2409 W. Roosevelt Rd., Chicago.

GIANINNI & HILGART, 1359 N. Noble, Chicago.

KARL HACKERT, INC., 215 W. Ohio St., Chicago 10.

(Continued on page 334)





Top: from Church Art Glass Studio, San Francisco. Bottom: from Robert Metcalf Associates, Yellow Springs, Ohio

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HAWS Deck-Type Drinking Fountains meet the demands of your school building program for improved water facilities inside the class room! Your choice of optional combinations of HAWS Faucets and Fixtures make these fountains adaptable to *all modern classroom needs.* Teachers and students alike, benefit from HAWS!



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Model 2444



Series 2000
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Series 2300
Model 2350

FEATURES

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Vandal-proof socket flanges and lugs.



Series 2200
Model 2255

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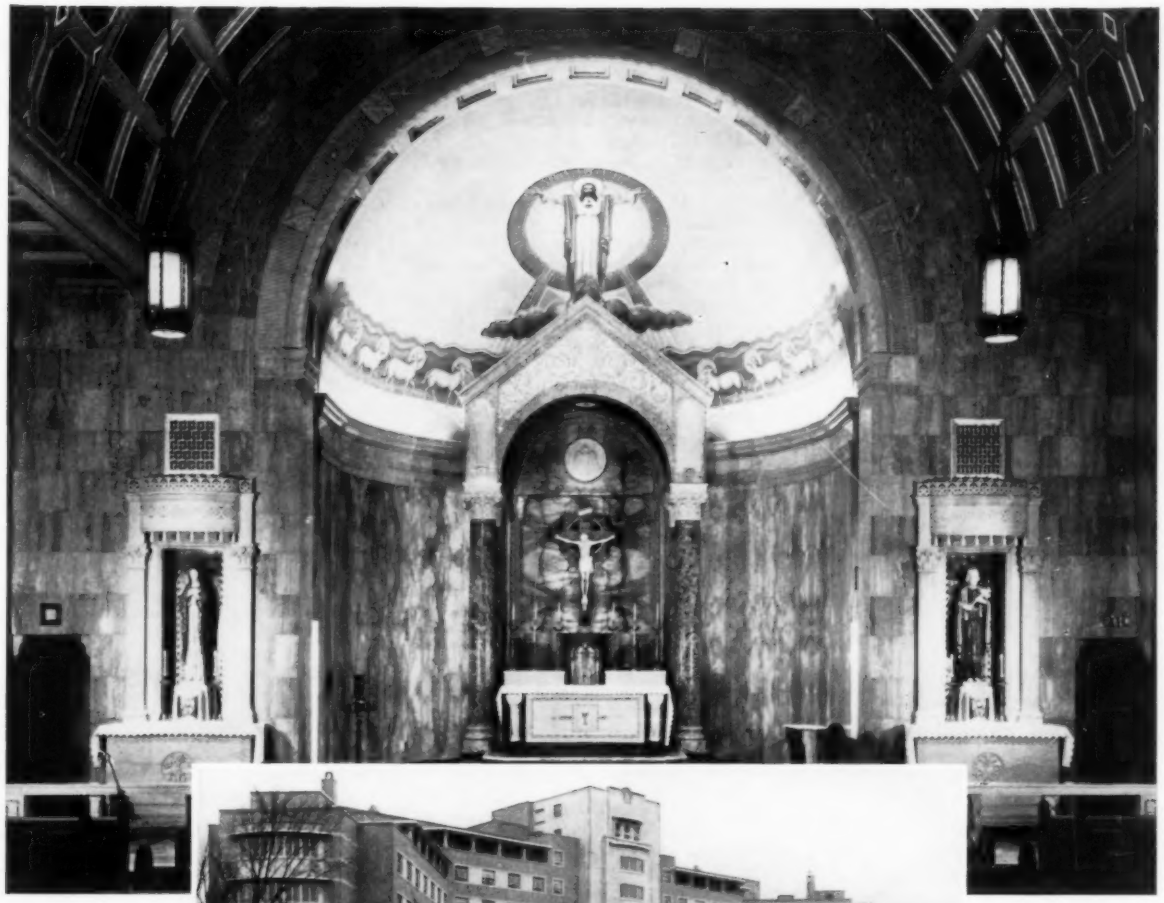
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"Marble Forecast 1956–57"
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THE RECORD REPORTS

A SPECIAL REPORT

(Continued from page 332)

MICHAUDEL STAINED GLASS STUDIO, 542 N. Paulina St., Chicago; est. 1896; staff of 11; traditional and contemporary.

CAPITOL GLASS CO., INC., 432 S. Missouri St., Indianapolis.

CITY GLASS SPECIALTY, INC., 2124 S. Calhoun St., Fort Wayne, Ind.; est. 1944; staff of five; prefer to work in 500–600 mile radius; traditional and contemporary.

STEWART-CAREY GLASS CO., INC., 270 Virginia Ave., Indianapolis 4; est. 1840; staff of three; prefer to work in Eastern U. S.; traditional and contemporary.

BLUM ORNAMENTAL GLASS CO., 1018 W. Market St., Louisville; est. 1856; staff of five; prefer working within 400-mile radius; traditional and contemporary.

FREDRICA H. FIELDS, 5214 Oakland Rd., Chevy Chase 15, Md.

MILLER ART GLASS STUDIO, 855 N. Howard St., Baltimore.

WILBUR HERBERT BURNHAM, 1126 Boylston St., Boston; est. 1922; staff of 11; traditional and contemporary.

CHARLES J. CONNICK ASSOCIATES, 9 Harcourt St., Boston; est. 1912; staff of 33.



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JOHN TERRENCE O'DUGGAN STUDIO, 116 St. Botolph St., Boston 15; est. 1925; staff of 11; prefer working east of the Mississippi; traditional and contemporary.

REYNOLDS, FRANCIS AND ROHNSTOCK, 1 Washington St., Boston; est. 1921; staff of six; traditional and contemporary.

CARROLL E. WHITTEMORE, 16 Ashburton Place, Boston 8; est. 1944; staff of 7; traditional and contemporary.

DETROIT STAINED GLASS WORKS, 4831–33 Fort St., Detroit.

GRAND RAPIDS ART GLASS CO., Fulton and Front Sts., Grand Rapids, Mich.

GAYTEE STUDIOS, INC., 225 S. Fifth St., Minneapolis.

MINNEAPOLIS ART GLASS CO., 616 S. Third St., Minneapolis.

NOVELLO ART GLASS STUDIOS, 150–152 High Forest St., Winona, Minn.; est. 1950; staff of 12; prefer working in the Midwest; traditional and contemporary

CENTURY ART GLASS CO., 5107 Delmar Blvd., St. Louis.

EMIL FREI, INC., 3934 S. Grand Blvd., St. Louis; est. 1898; staff of 26; favors contemporary work.

JACOBY ART GLASS CO., 822 Wilmington Ave., St. Louis; est. 1896; staff of 25; prefer working in 1000-mile radius; favor traditional work.

KANSAS CITY ART GLASS WORKS, 2002 Indiana, Kansas City; est. 1929; staff of four; favor traditional work.

SAINT JOSEPH ART GLASS WORKS, 806 N. Second St., St. Joseph, Mo.

SEELE ART GLASS CO., 1631 Jonquil Dr., Webster Groves, Mo.

UNIQUE ART GLASS CO., 312 N. 17th St., St. Louis.

B. F. BIEHL, 251 W. Graisbury Ave., Audubon, N. J.

EDWARD W. HIEMER & CO., 140 Wabash Ave., Clifton, N. J.; est. 1931; staff of 23; traditional and contemporary.

J. & R. LAMB STUDIOS, 46 W. Clinton Ave., Tenafly, N. J.; est. 1857; staff of 17; traditional and contemporary.

PAYNE-SPIERS STUDIO, INC., 49–54 E. 13th St., Paterson 4, N. J.; est. 1889; staff of 14; traditional and contemporary.

AVE MARIA STAINED GLASS STUDIO, 541–545 DeKalb Ave., Brooklyn; est. 1901; prefer to work in Atlantic Coast States; staff of 9; traditional and contemporary.

A. L. BRINK; 165 E. 88th St., New York.

DAPRATO STUDIO, INC., 104–112 E. 25th St., New York.

GEORGE DURHAM & SON, 210 E. 35th St., New York; est. 1902; staff of 15; traditional and contemporary.

HENRY KECK; 1010 W. Genesee St., Syracuse, N. Y.; est. 1913; staff of nine; traditional and contemporary.

PIKE STAINED GLASS STUDIOS, 145 St. Paul St., Rochester, N. Y.; est. 1909; staff of eight; accept commissions in northeastern states; traditional and contemporary.

RAMBUSCH DECORATING CO., 40 W. 13th St., New York 11; est. 1928; staff of 18; traditional and contemporary.

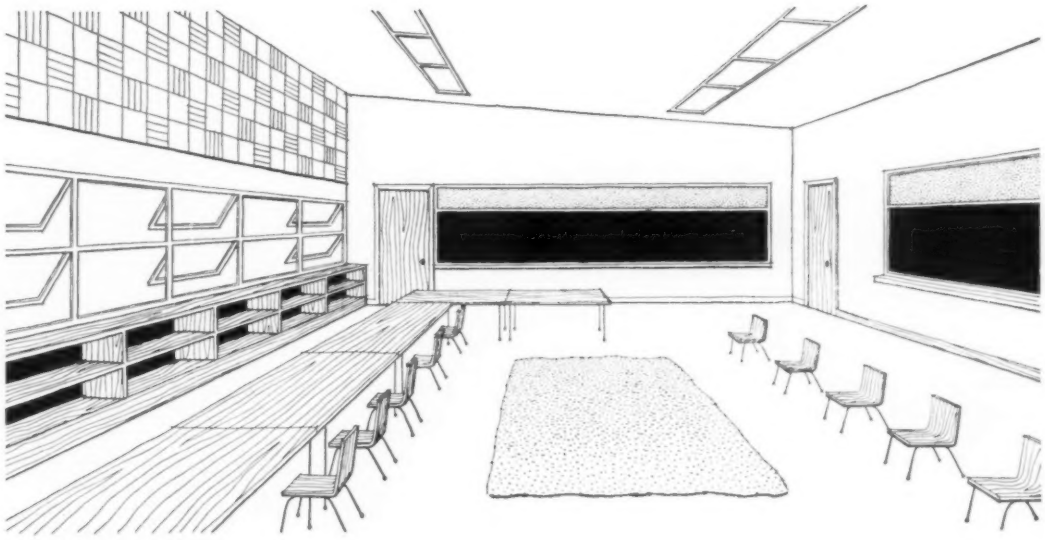
HANS ROHLF, 521 Saint Ann's Ave., New York 55.

SOMMERS STAINED GLASS STUDIOS, 280 S. Ocean Ave., Freeport, N. Y.

NICHOLAS WAGNER, 228 W. Broadway, New York 13.

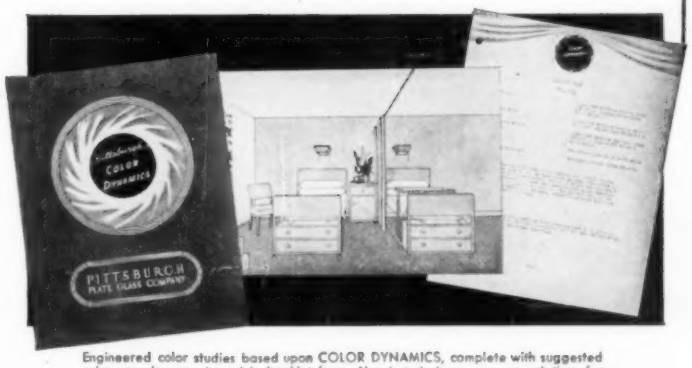
F. G. WIEDEMANN STAINED GLASS STUDIO, 19044 99th Ave., Hollis 7, Long Island.

(Continued on page 338)



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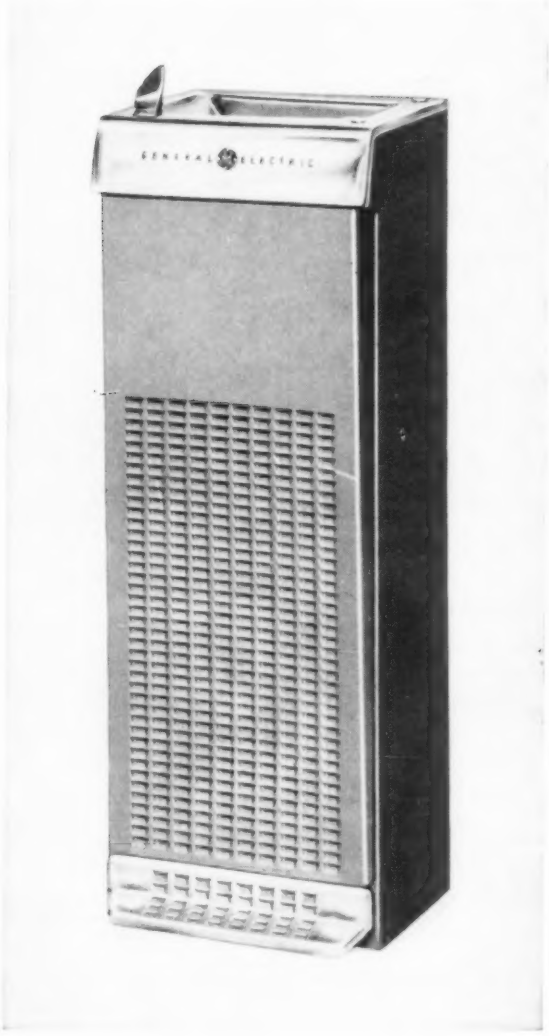
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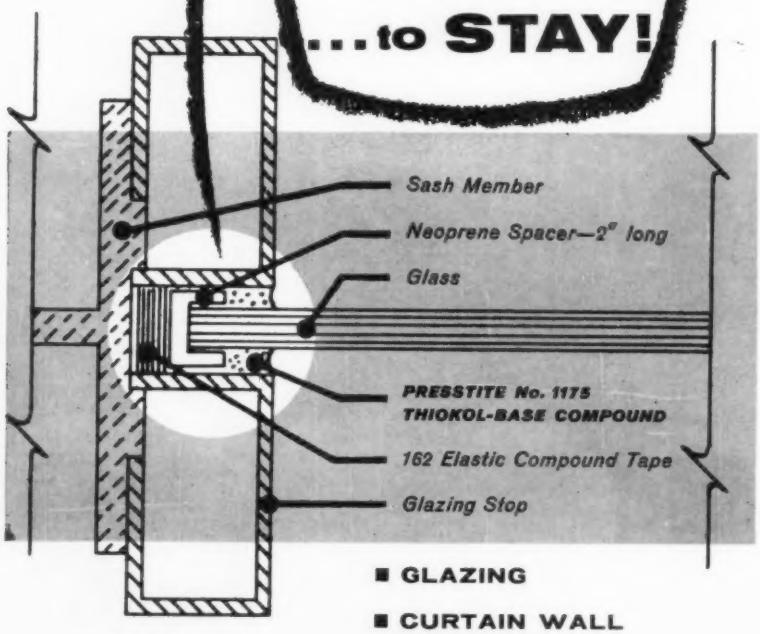
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THE RECORD REPORTS

A SPECIAL REPORT

(Continued from page 334)

ZETTLER STUDIOS, INC., 26 E. 11th St., New York 13.

HIGH POINT GLASS & DECORATIVE CO., High Point, N. C.; est. 1906; staff of 15; traditional and contemporary.

FRANKLIN ART GLASS STUDIO, 214 Oak St., Columbus, Ohio; est. 1924; staff of five; traditional and contemporary.

ROBERT M. METCALF & ASSOCIATES, Yellow Springs, Ohio; est. ca. 1936; staff of four; favor contemporary work.

PHILLIPS & BUSER STUDIO, 6410 Superior Ave., Cleveland.

POREMBA STAINED GLASS STUDIO, 20806 Aurora Rd., Bedford, Ohio.

G. C. RIORDAN & CO., 1077 Celestial St., Cincinnati.

JOHN W. WINTERICH & ASSOCIATES, 3648 Euclid Ave., Cleveland; est. 1918; staff of 52 (not all stained glass workers); "leaning toward" contemporary.

ALBERT A. GERLACH, 2232 SE. 57th Ave., Portland 15, Ore.; est. 1950; staff of one; traditional and contemporary.

BERT WILLEMSE STAINED GLASS STUDIO, Route 1, Box 202, Portland 9, Ore.

MRS. P. H. BALANO, 242 Harvey St., Philadelphia.

D'ASCENZO STUDIOS, 1602 Summer St., Philadelphia 3.

HENRY HUNT STUDIOS, 1756 W. Carson St., Pittsburgh 19; est. 1906; staff of 15; prefer working within 500-mile radius; favor contemporary work.

LEONIDS LINAUTS, 29 N. Church St., Mohnton, Pa.

PITTSBURGH STAINED GLASS STUDIOS, Warden & McCartney St., N.E., Pittsburgh 20; est. 1901; staff of 14; prefer working in 500-mile radius; traditional and contemporary.

QUAKER CITY STAINED GLASS WORKS, 4208 Ridge Ave., Philadelphia 29.

P. J. REEVES & CO., 6136 Cedar Ave., Philadelphia 43.

UHRIG BROTHERS, 3039 N. Fifth St., Philadelphia.

WILLET STAINED GLASS CO., 3900 Girard Ave., Philadelphia 4; est. 1898; staff of 51; traditional and contemporary.

FOSTER ART GLASS CO., 2361-95 Rossville Blvd., Chattanooga, Tenn.

ORCO INC., 8126 Broadway, San Antonio; est. 1951; staff of six; prefer contemporary.

ENTERPRISE ART GLASS WORKS, 829 W. Michigan St., Milwaukee.

T. C. ESSER CO., 3107 W. Galena St., Milwaukee.

GAVIN MIRROR & ART GLASS WORK, INC., 1010 N. Water St., Milwaukee.

CONRAD PICKEL STUDIOS, Route 4, Box 860, Waukesha, Wis.; est. 1945; staff of 13; contemporary.

CONRAD SCHMITT STUDIOS, 1325 S. 43rd St., Milwaukee 14; est. 1889; staff of 16; prefer contemporary work.

WAGNER BROTHERS, 2001 Clybourn Ave., Milwaukee.

BULLUS GLASS, LTD., 15 Joseph St., Kitchener, Ont.

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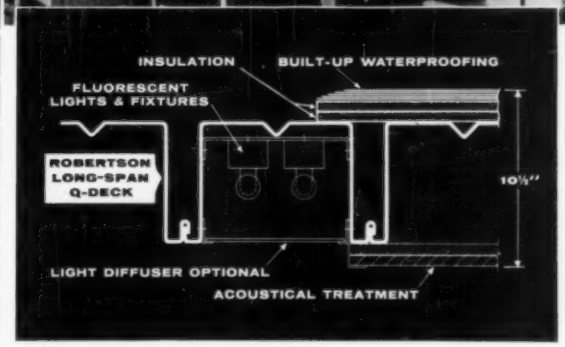
2 Long Span Q-Deck used as a ceiling possesses a measure of acoustical benefit, therefore only perimeter treatment of acoustical material becomes necessary as seen in the photograph. This again saves time and material.

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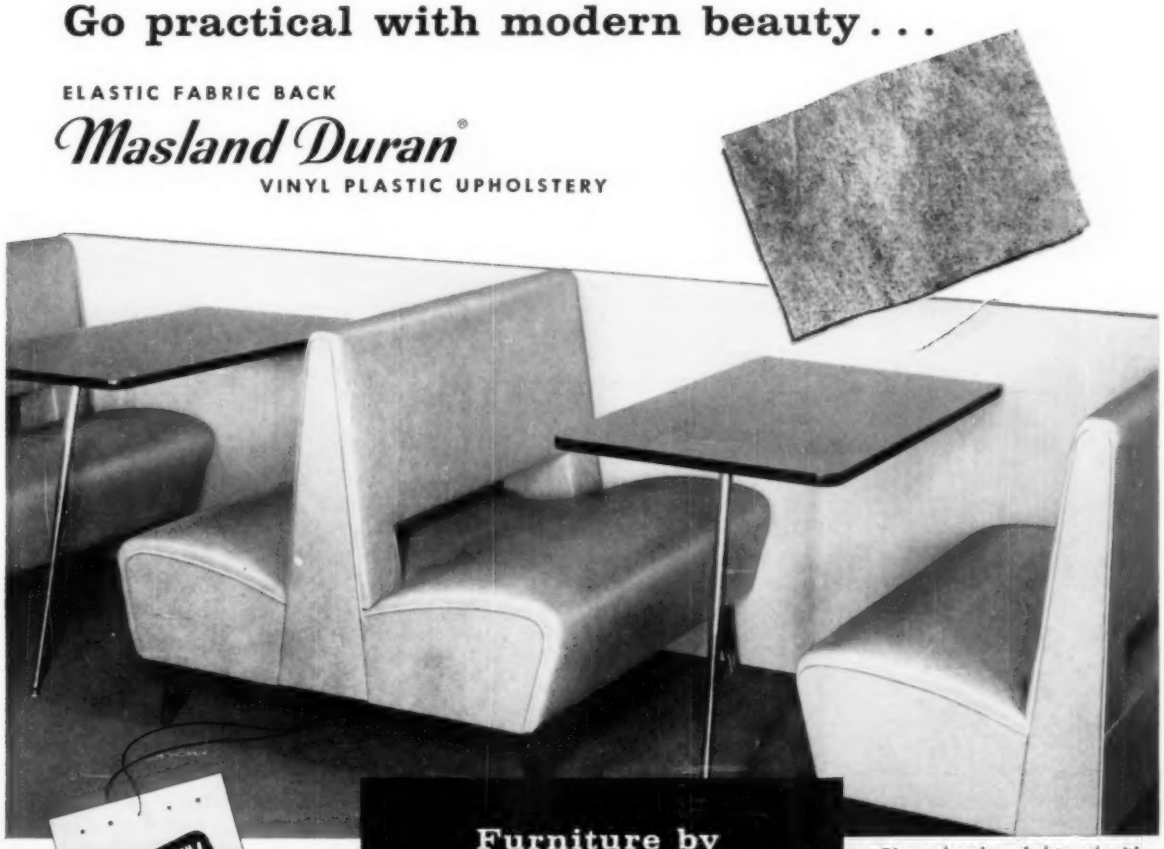
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THE RECORD REPORTS

WASHINGTON TOPICS

(Continued from page 48)

It is known that the landing gear will be dual tandem wheels.

Meanwhile, the paving strength formula has been applied to these known factors and CAA is not worried about the breaking up of any runway pavements, it says, because it is aware of which airports have runways that will carry these loads. It does need to know, however, the effect of repetitive landings of the large aircraft and is seeking this information at its testing center at Indianapolis.

Additional information on the nature of the planes of the future is being sought from the National Advisory Committee for Aeronautics.

On length of runways: manufacturers say 9600 feet will be required for operation of their big jets at sea level on standard temperature days if the airport is a take-off point for the longest jet transport flights. Thus, airports on either coast where transcontinental or transocean trips originate are advised to look to their runway lengths.

The design of most airport runways and taxiways is in for a thorough look, CAA officials said. This will be a part of the reexamination of Technical Standard Order N6A to determine what revision may be necessary for this standard on airport design and construction. The place of Federal funds in many aspects of a different kind of airport also is being studied.

Mr. Lowen sums up: "One thing is certain: we cannot go on year after year expanding all our airport facilities. We have a right to expect a kind of aircraft to be developed that will be more economical of facilities on the ground."

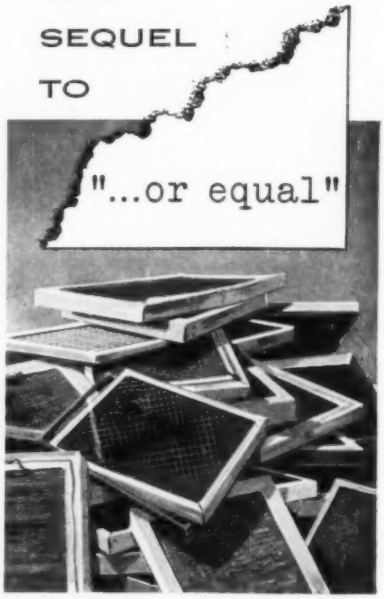
HOME BUILDERS SCHEDULE HOUSING TOUR OF SOVIET

A delegation of 14 American home builders and two members of the Rental Housing Association of the Boston Real Estate Board was prepared to leave the middle of June to make a 30-day inspection tour of Russian housing and the materials and techniques used in its construction.

This was announced by the National Association of Home Builders which was host to a Soviet housing delegation, including one architect, which toured the United States from coast to coast

(Continued on page 346)

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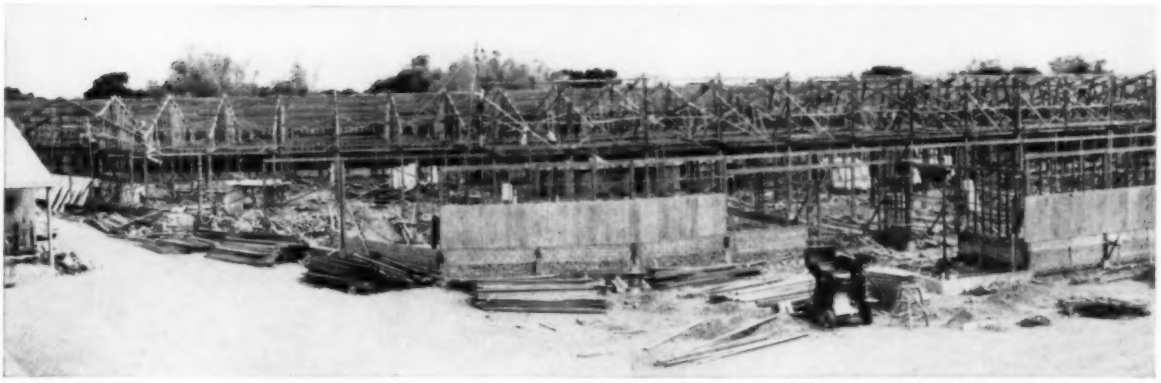
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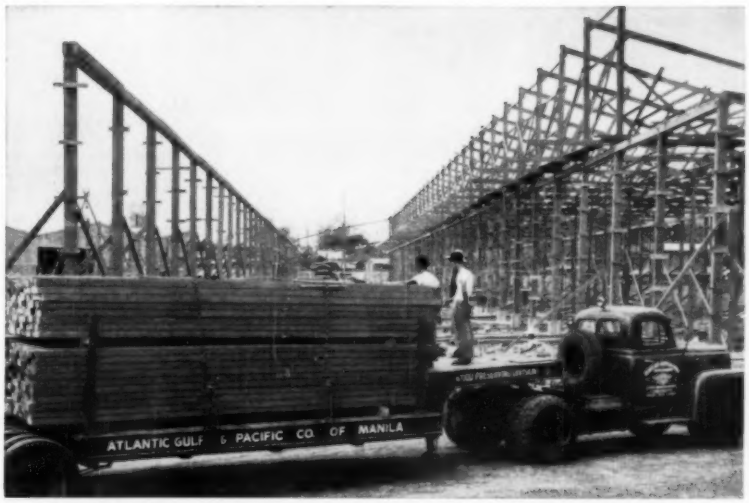
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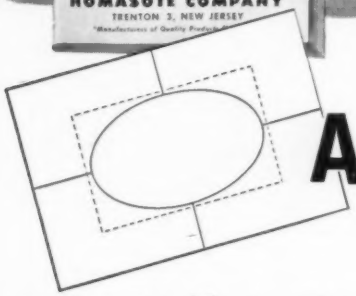
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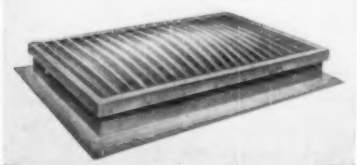
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THE RECORD REPORTS

WASHINGTON TOPICS

(Continued from page 342)

last fall. In announcing the American tour of the Soviet Union, N.A.H.B.'s president, Joseph B. Haverstick of Dayton, Ohio, said: "We are looking forward to this visit to inspect housing in the Soviet Union. It will round out the exchange of information undertaken when the Soviet housing delegation visited our country last fall as guests of N.A.H.B. and its affiliated local associations. We have every reason to expect that the Soviets will, in accordance with the pattern established here, make freely available the information on their housing techniques and materials."

Earl W. Smith, El Cerrito, Cal., was designated delegation chairman by Mr. Haverstick. In addition to the 14-man team and the two Boston delegates, Robert F. Loftus, N.A.H.B. public relations director, and an interpreter, will make the trip. Among the many cities to be visited are Moscow, Kiev, Stalingrad and Leningrad.

CHAMBER ASKS PROGRESS ON CODES AND RESEARCH

"Building codes should be maintained in step with technological progress and obsolete requirements should be eliminated so as to avoid unnecessary costs to owners." This language opens the U. S. Chamber of Commerce policy statement on building codes approved at the 44th annual meeting in Washington, D. C., last month. The statement goes on to urge support for the four nationally accepted building codes already promulgated and to commend the efforts of the Joint Committee on Building Codes which is trying to resolve differences in the basic requirements.

The only objective of building codes, said the Chamber, must be to protect the public life, health and property.

The policy statement continued: "They must permit the exercise of individual initiative in selecting and improving design, materials, equipment, and methods of assembly into building and other construction. . . . It is important that legal and other obstacles in the way of the use by communities and states, in their codes, of recognized standards or requirements developed through acceptable industry processes and by qualified agencies be overcome.

(Continued on page 350)

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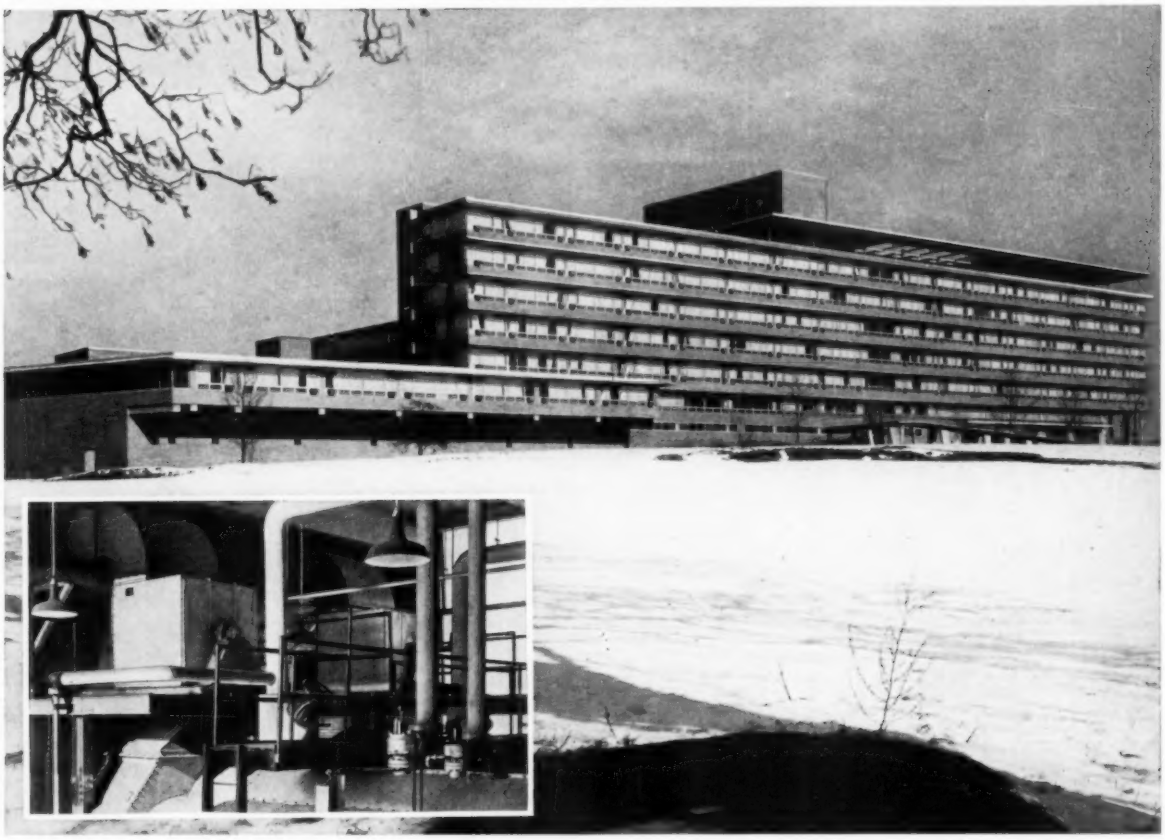
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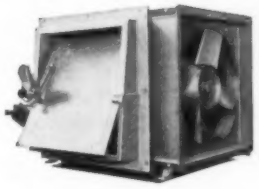


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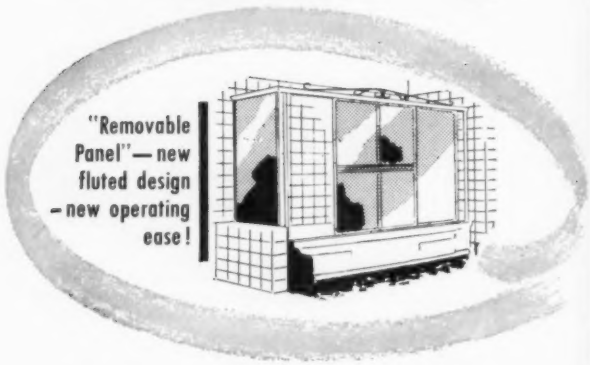
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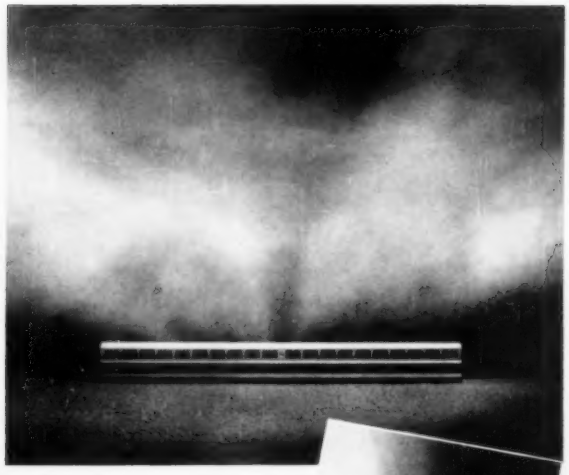
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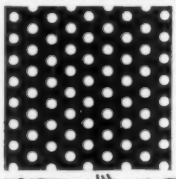
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THE RECORD REPORTS

WASHINGTON TOPICS

(Continued from page 346)

There is need, also, for greater standardization and coordination of testing methods so that a determination, once it is made, of the acceptability of a new material or method of assembly, will be more widely used."

The policy declarations also called for a reappraisal of the Federal government's activities in the field of public works construction to clarify Federal responsibility.

On research it was resolved: "The industry should make further efforts to develop more intensive research to determine what the consumer wants for his construction dollar and to stimulate the markets for housing and other construction, including the replacement and modernization of obsolete structures and the redevelopment of run-down areas in communities. The Federal government in cooperation with the industry should improve its reporting of basic data regarding construction activity and should simplify and reduce the burden of its reporting procedures.

"The construction industry, through the Building Research Institute, should continue and increase its support of the Building Research Advisory Board, an impartial non-governmental agency to stimulate technical research and to provide an authoritative clearing house of technical information in the building field."

Productivity: "Both management and labor should continue to study and adopt practical ways and means of increasing productivity in construction. Such efforts will serve the public interest by conserving materials and manpower, and by lowering costs and thus providing more employment for construction and building trades workers."

AIR FORCE TOLD TO STUDY BROAD LATITUDE ON FUNDS

The Air Force has promised a Congressional committee it will study and report back on the matter of extra generous leeway in the expenditure of appropriated construction funds.

As presented to Congress this year, the military budget would enable the Air Force to wind up with a latitude of $903 million — a sum it could spend relatively freely on projects given only

(Continued on page 352)

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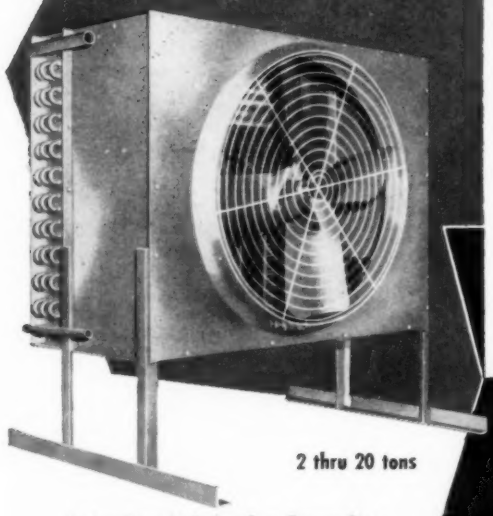


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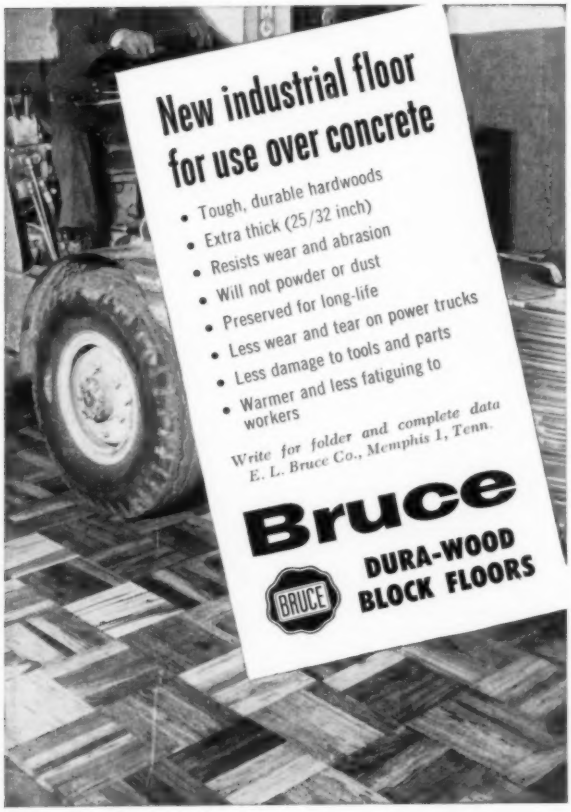
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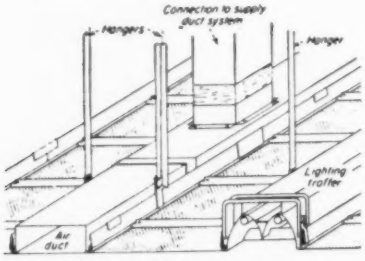
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THE RECORD REPORTS

WASHINGTON TOPICS

(Continued from page 350)

cursory approval previously by Congressional committee.

In the opinion of Subcommittee Chairman George H. Mahon (D-Tex.), this is, in a sense, giving the military service a blank check to be applied anywhere its contracting officers see fit on authorized projects totaling more than twice the appropriated amount.

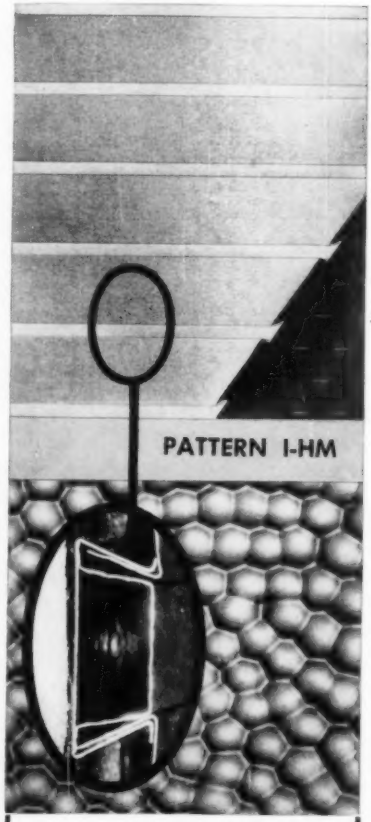
The Air Force asked for new appropriations in fiscal 1957 of $1228 million to fund the $2.2 billion worth of projects now sanctioned by the committee. Large Air Force programs such as the Air Force Academy at Colorado Springs, the Arnold Development Center, and others, account for part of this spread because the funding of these is likely to be much less than total authorizations. However, the speed of base and installation development also influences the picture. Many projects are programmed, given Congressional approval, then postponed because available money must be spent on urgent jobs suddenly given higher priority.

In this connection Air Force Secretary Donald Quarles told the Mahon subcommittee, "We have had to shove aside the less urgent projects in favor of the more urgent ones and altogether it is true that we are proposing to the Congress a combination of authorization and construction that will continue a strong construction program and will cover the essential operational requirements for the 137-wing force that we expect to have at the end of the next fiscal year, but will not cover all of the desirable nor even all of the authorized projects that we have on our books."

ARMY OKAYS DESIGNS FOR PREFAB MILITARY HOUSING

By the middle of last month, prefabricated home builders were in a position to bid on a vast amount of military housing side by side with conventional builders. The Army Corps of Engineers had approved plans for three basic types of units designed by Washington, D. C., Architect Charles M. Goodman under contract to the Corps of Engineers. These can be built with direct appropriated funds if the Corps' District Engineer in any area elects to use them.

(Continued on page 356)



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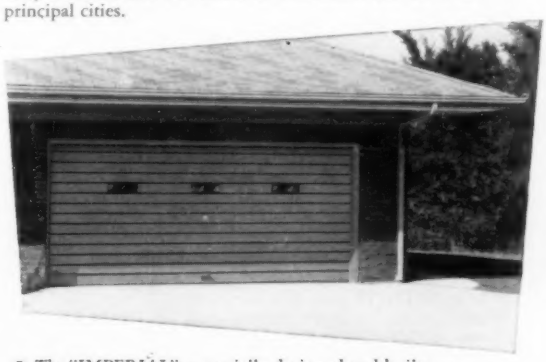
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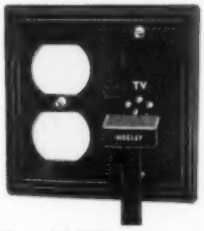
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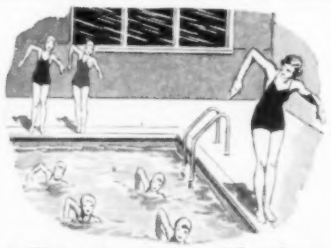
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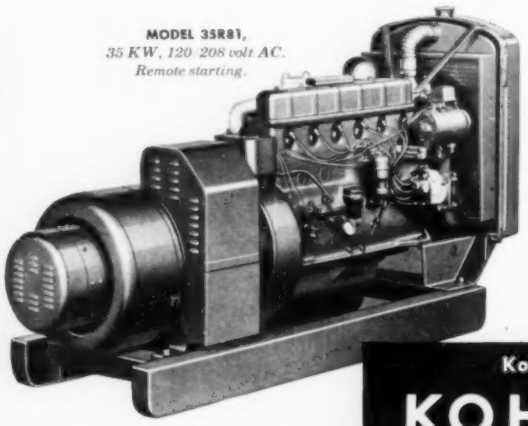
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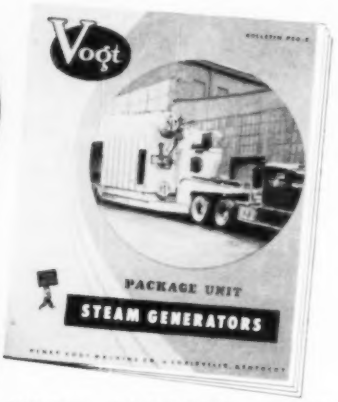
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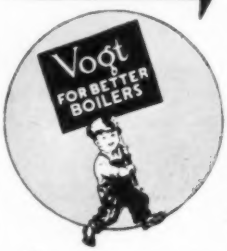
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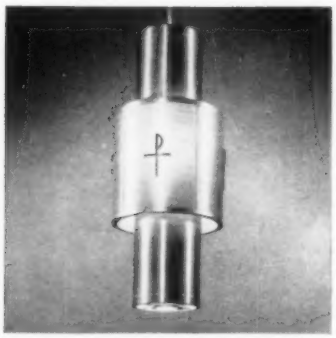
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THE RECORD REPORTS

WASHINGTON TOPICS

(Continued from page 352)

The three designs are for (1) two-story row housing; (2) single family detached units, one story, and (3) single family double units, one story.

The plans employ use of modular dimensions to permit prefabrication either at the factory or at the job site. A statement issued by the Army Engineers reads:

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RESEARCH FACILITIES AID MAKES PROGRESS IN HOUSE

Legislation passed by the Senate last year authorizing a $90 million expenditure in three years to help states build non-Federal research facilities experienced little difficulty in the House Interstate and Foreign Commerce Committee, and last month was on its way to becoming law.

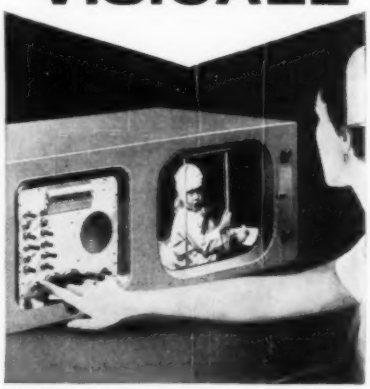
Covered in this bill were all research facilities required by medical, dental, and public health schools. As passed by the Senate and considered by the House it authorized appropriations of $30 million for each of three years for grants-in-aid for construction of non-Federal research projects. No Federal grant could exceed half the estimated cost of the project. Each application would go to U. S. Public Health Service.

On the House side a Health, Education, and Welfare Department official unsuccessfully urged a subcommittee to raise the dollar amount to $250 million to be spread over five years. This was described as a "more realistic figure" in the light of known needs. Dr. Alan T. Waterman, director of the National Science Foundation, supported the measure (S.849).

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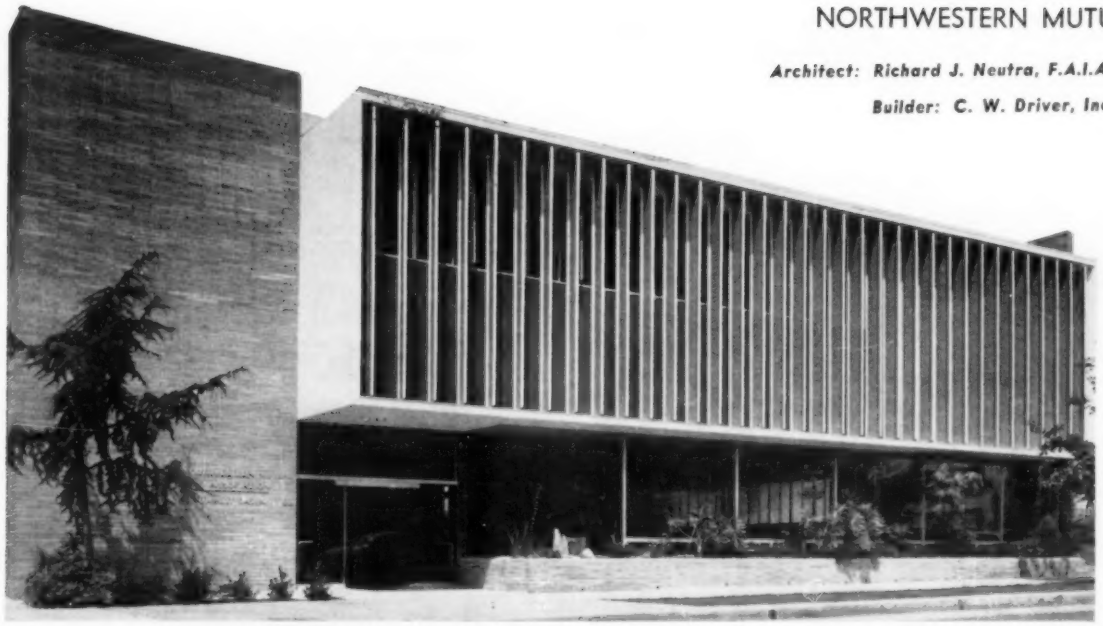
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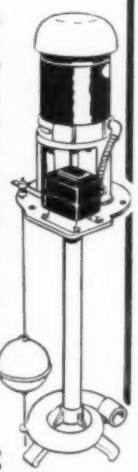
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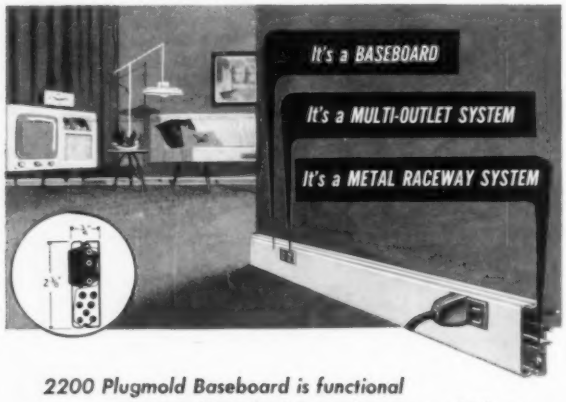
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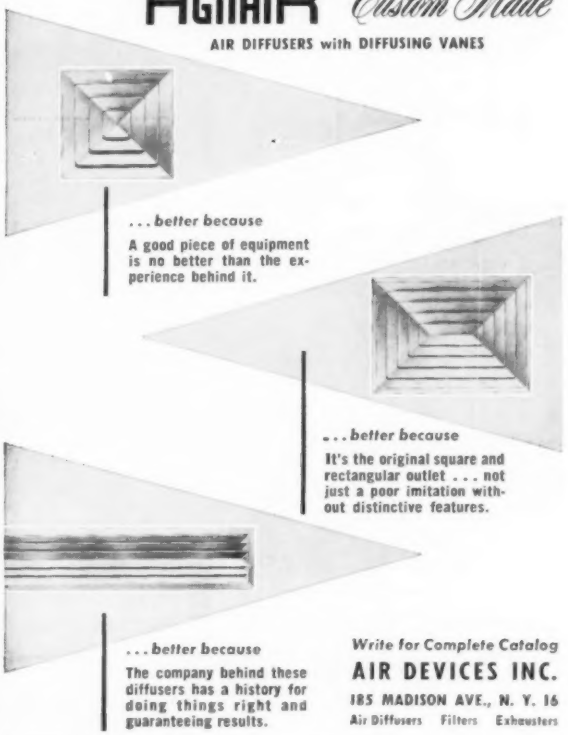


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APPLICATION / PRODUCT	Glazing of Steel Sash	Glazing of Aluminum Sash	Glazing of Galvanized Bonderized Steel Sash	Glazing of Wood Sash (Primed or Unprimed)	Caulking Joints & Seams (Wood, Metal or Masonry)	For Expansion Joints in Copings, Sill Courses, etc.	Sealing Joints in Siding, Asbestos, etc.	Channel Glazing, Shower-Doors, Joints in Swimming Pools	For Setting Thermopane and Twindow	Insulation Joint Sealer and Vapor Barrier
Arm-Glaze, Type G	●	●	●							
Arm-Glaze, Type M				●						
Tharco Steel Sash Putty	●									
Casement Putty	●									
Caulking Compound					●					
Mastic Rope						●				
Twin-T Mastic (Gun grade)					●	●	●	●		
Twin-T Mastic (Knife grade)					●	●		●	●	
Foamglass Joint Sealer										●

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Roll-Out Gym Seats

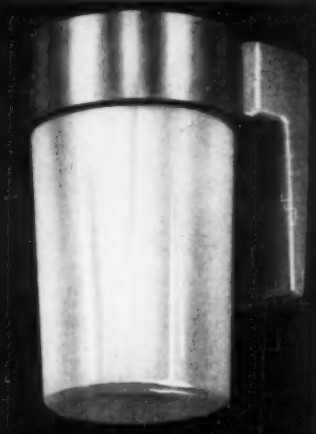
After careful comparison, the safety engineers of a nationally recognized insurance company stated that "public risk" in Hussey Roll-Outs was much less than in any other known seats, and that any public liability insurance carrier would be justified in extending a lower over-all "judgment rate."

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FOR SPECIFICATIONS SEE SWEET'S CATALOG 23J OR WRITE, WIRE OR PHONE HU

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REQUIRED READING

(Continued from page 64)

manuals consisting primarily of tables and charts. In this volume, Mr. McKaig has chosen to omit the theory but to combine structural problems with integrated design tables, charts and code references conveniently adjacent to the related illustrative problems and State Board examination questions. In this new edition, the material has been brought up-to-date.

The author has thus provided a valuable reference worthy of displacing some of the all-to-often diffuse and scattered material on the working shelf of practising architects and engineers, as well as license-candidates and students.

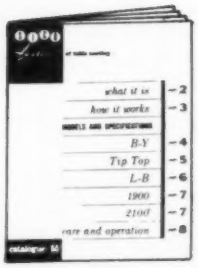
Problems are included in the design of timber, steel and concrete as applied to joists, beams, lintels, built-up sections, riveted plate girders, slabs and columns. Connections, including the increasingly important use of welding, are well illustrated. A chapter on "complex structures" includes trusses, wind stresses, bins, mill buildings and poles. In addition, there is material on foundations and footings, masonry walls and retaining walls.

The author has adapted, from his active practice as an architectual engineer, approved and simplified procedures with short-cut office methods predicated on knowing the underlying theory. The careful reader should therefore back-check his theory, if in doubt.

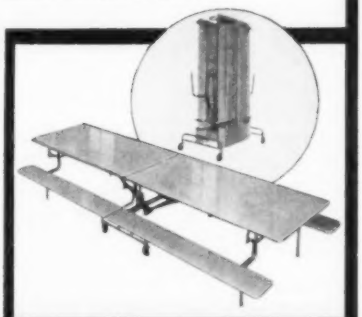
From his experience, the author has added various sections of quite helpful "judgment factors" in the selection of construction types, fire ratings and floor systems, as well as a chapter on Office Practice which includes structural and shop drawing check lists. In this connection, it would have been even more valuable if he could have amplified on the very important matter of the coördination of the structure with the requirements of the increasingly accelerated demands of lighting, acoustics, heating, air conditioning, elevators and escalators.

A word of caution to the novice is necessary in assuming responsibility for the design of such problems covered in various chapters as a gable-end rigid frame, semi-rigid steel framing, concrete flat slab, steel and concrete composite construction and wind bracing. In application, such items of design require well-balanced judgment and experience with the variables of specific building requirements such as openings, concentrated loads and irregularities; as well as the effects of column and con-

(Continued on page 362)



FREE *catalog describes the* SICO *System for lower costs, multi-use of space and convenience*



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typical of the quick folding, easy rolling units that instrument the SICO System of school, industrial and institutional seating. Cost less because they require no installation and seat greater numbers in less space. SICO Tables make multi-use of space practical and economical without any built-in construction. They permit any area to be converted from one function to another in a matter of minutes. Fast, safe operation because there are no latches, locks or catches. All units require small storage area—B-Y needs just 8¾ Sq. Ft. All have tough, sanitary, mellamine plastic tops mounted on 14 gauge, structural steel frames that are zinc lustron plated for lasting protection. All are equipped with 4 in. rubber casters. B-Y seats 16 adults or 20 children.

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Sumo SUBMERSIBLE PUMPS
for Home • Farm • Industry

REQUIRED READING

(Continued from page 360)

ditions, frame action, varying sections, wind forces, unbalanced loading and foundation settlement.

For those preparing for license examinations, most of the fundamental topics are covered. The penchant of examiners for introducing variations on the theme and the importance of clear and complete presentation within a limited time, should be kept in mind.

It is a service to the professions for a busy designer such as Mr. McKaig to devote the effort to transcribe his experience in the form of this useful and time-conserving office manual on structural design.

A MUSEUM WORTHY OF NOTE

The Story of the Shelburne Museum. By Ralph Nading Hill and Lillian Baker Carlisle. The Shelburne Museum. (Shelburne, Vt.) 1955. 56 pp, illus.

In the New England town of Shelburne, Vermont there are some 20 acres of rolling countryside devoted entirely to the preservation and exact reconstruction of Colonial-American art, crafts and architecture.

This laudable and ambitious task is the realization of the deep interest for that period of Mr. and Mrs. J. W. Webb, who, with the help of many enthusiastic and generous friends have made the Shelburne Museum a live statement of Colonial American life.

This booklet, written by two members of the Museum's Board, describes and gives the historical background of each of the buildings on the site — including Dorset Castle, the Charlotte Meeting House, Colchester Lighthouse and a steam driven carrousel. The descriptions are accompanied by many fine photographs of the buildings as well as their furnishings and the tools used to construct them.

TWO HISTORICAL VOLUMES

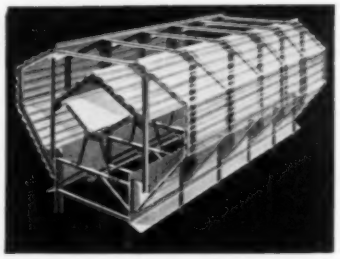
Synagogue Architecture in the United States. By Rachel Wischnitzer. The Jewish Publication Society of America. (Philadelphia, Pa.) 1955. 204 pp, illus. $6.00

In the preface of this volume, the author states, "This is the first comprehensive attempt at explaining American synagogue architecture in terms of form and function against the background of the history of ideas." It is more than this, for as Philip Johnson writes in the foreword, ". . . perhaps more than the author anticipated, her book is a handbook for architects."

Stained Glass of the Middle Ages in England and France. By Arnold and Saint. The Macmillan Co. (New York) 1956. 269 pp, illus. $8.50



FOR ECONOMICAL BIG VOLUME VENTILATION



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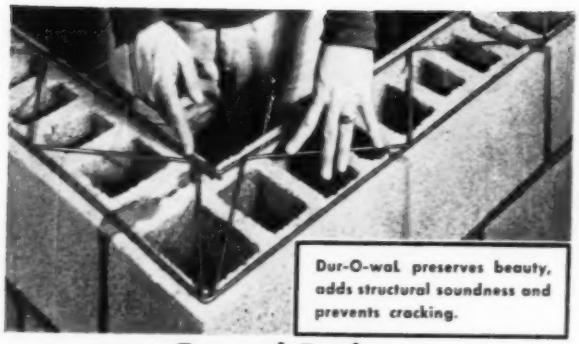
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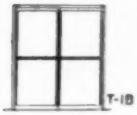
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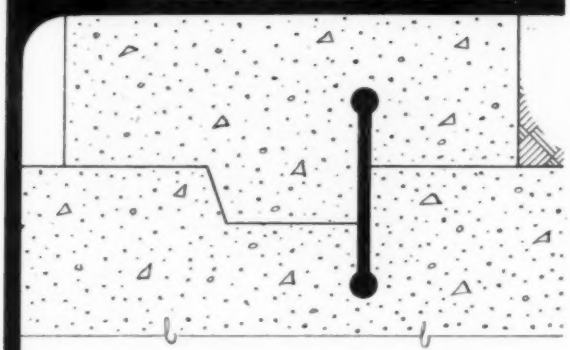
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See SWEET'S Files, or write for information.

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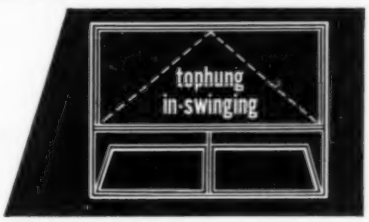
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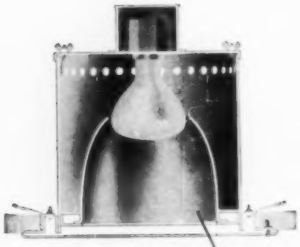
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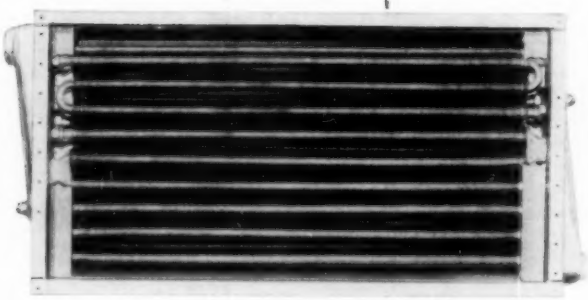
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See AIA File 4-L and Sweet's Cat. 2e/Ha

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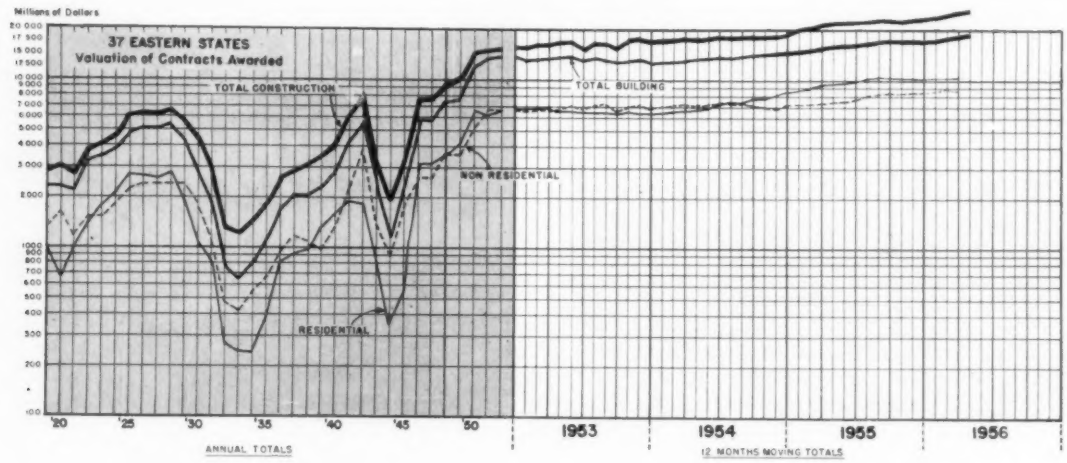
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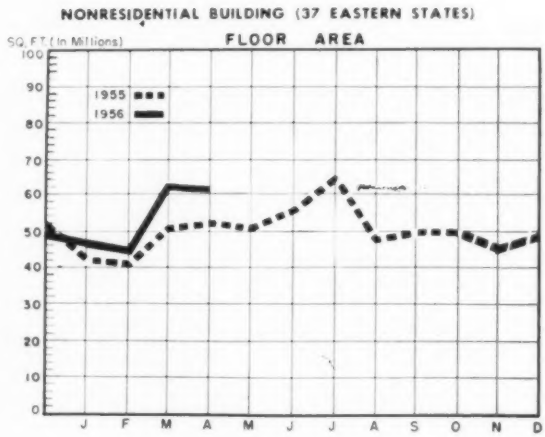
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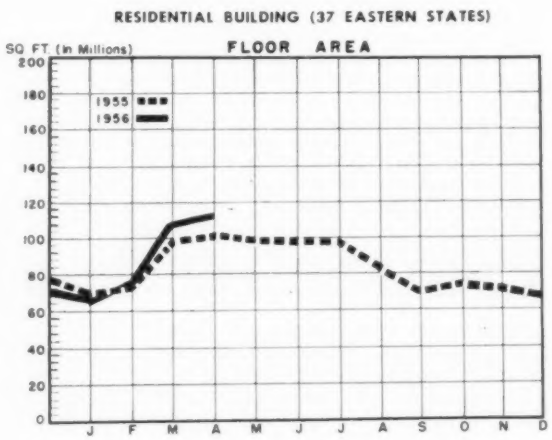


UP, UP, UP; MORE RECORDS ARE MADE

An all-time record for residential contracts awarded in any single month was set by the total reported for April as F. W. Dodge Corporation announced its latest figures on construction contracts awarded in the 37 states east of the Rockies. The residential total of $1,144,160,000 was seven per cent over April 1955 and, by a small margin, the greatest for any month in Dodge history. The overall total for the month, at $2,421,-497,000, was the highest for any April in history, four per cent over April 1955, and the second highest for any month on record — surpassed only by May 1951, which included the extraordinary total of $980 million in Atomic Energy Commission contracts alone. Nonresidential construction for the month totaled $821,549,000, up 16 per cent from April 1955. The cumulative total of $8,521,369,000 for the first four months of 1956 also set a new all-time high and bettered the 1955 period by 13 per cent; the new highs prevailed in all three major categories for the four-month period — nonresidential at $2,993,989,000 up 17 per cent from the 1955 period; residential at $3,743,188,000 up eight per cent; and heavy engineering at $1,784,192,000 up 20 per cent.

Charts by Dodge Statistical Research Service





Source: F. W. Dodge Corporation

CHURCHES *

Contracts Awarded—37 Eastern States
Valuation (in thousands of dollars)

Year	Annual Total	Monthly Total	Year	Annual Total	Monthly Total
1929	85,378	7,115	1950	285,471	23,789
1935	16,626	1,385	1951	260,230	21,686
1943	6,652	554	1952	257,708	21,476
1947	98,863	8,239	1953	288,749	24,062
1949	239,065	19,922	1954	408,053	34,004

Monthly Totals

1955				1956	
Jan.	23,909	July	40,997	Jan.	21,688
Feb.	39,380	Aug.	36,632	Feb.	23,009
Mar.	35,192	Sept.	40,362	Mar.	37,671
Apr.	36,022	Oct.	39,074	Apr.	46,251
May	34,727	Nov.	31,878	4 mos.—	128,619
June	52,110	Dec.	25,588		
		12 mos.—	435,871		

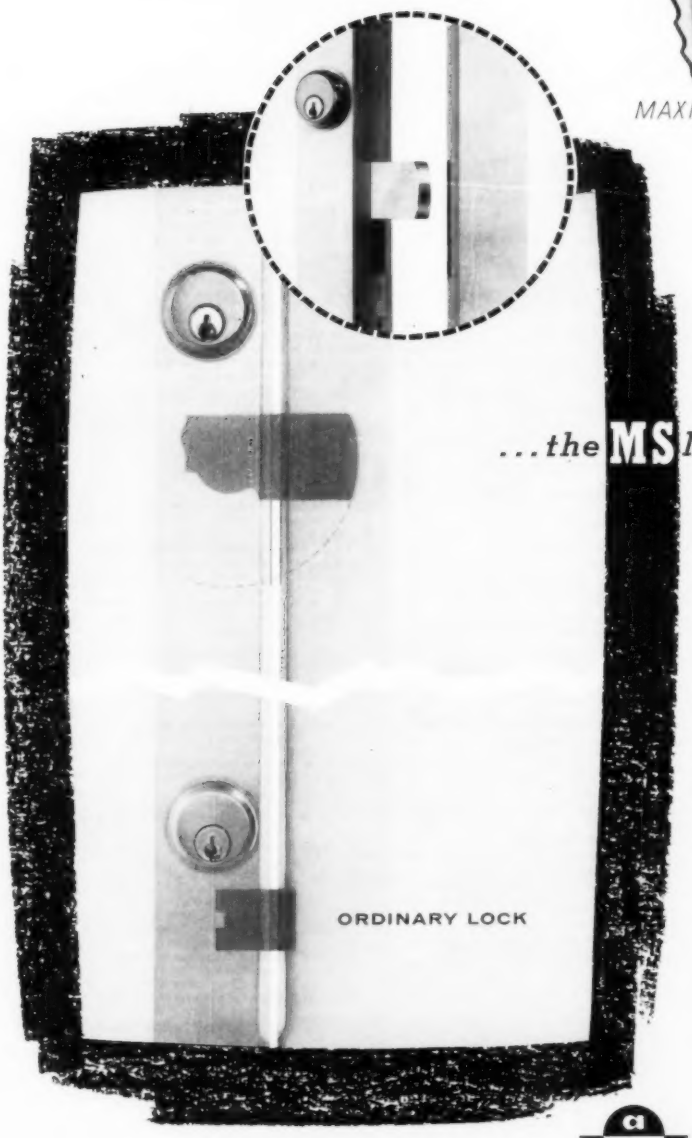
* Churches are the subject of Building Types Study No. 235, pages 183-214



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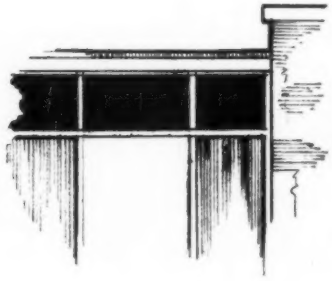
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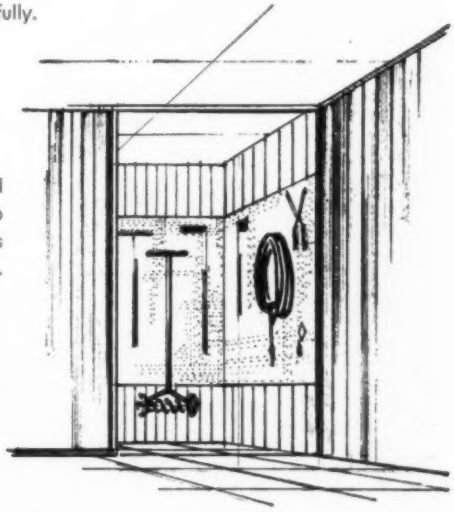


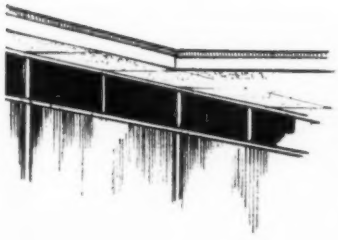
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112-year-old insurance company looks ahead with new functional design for office building

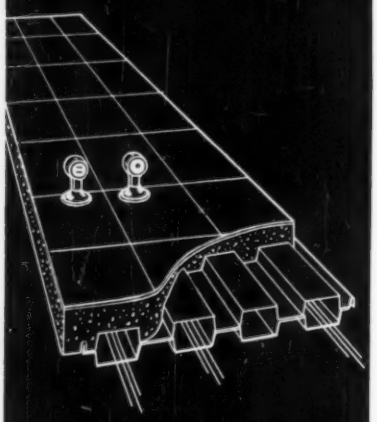
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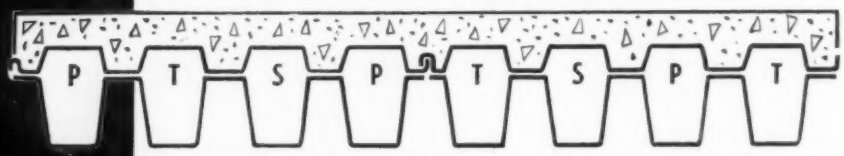


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Cross-section showing Celluflor installation in State Mutual Life Assurance Building. P = power; T = telephone; S = signal.



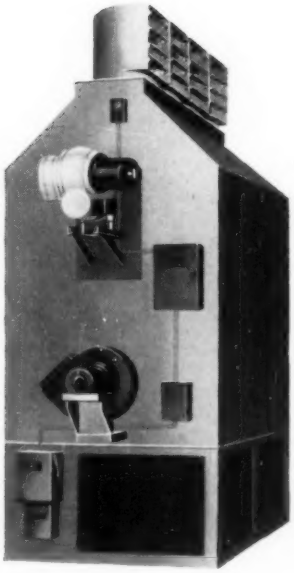
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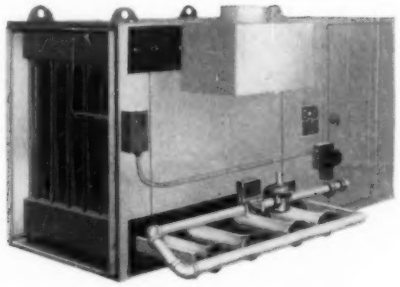
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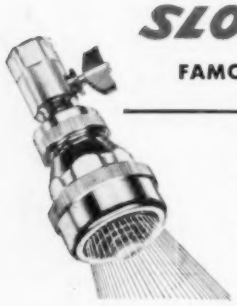


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